THE SOCIAL FRAMEWORK

AN INTRODUCTION TO ECONOMICS

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PREFACE

I HAVE written this book because I have come to hold a particular point of view about the right way to arrange economics for elementary study.

Until lately the problem of how to begin the study of economics reduced itself to a dilemma: either one might begin with economic theory—which meant in practice the theory of supply and demand—or one might begin with descriptive economics, the practical problems of industry and labour. Now there were serious objections against each course. To begin with the theory of value meant starting off with problems whose significance it is difficult for the beginner to realize, and on a field where generalizations which will stand up to criticism are singularly difficult to attain. Descriptive economics, on the other hand, taken without a sufficient grounding in theory, is inevitably either a dull collection of facts or, alternatively, a discussion of practical policies which may be lively enough, but which it is hard to raise much above the intellectual level of political propaganda. In practice, whichever of these solutions was adopted, some of these difficulties were incurred. The student who pursued a long course of study would of course find his way round them in the end, though not without some waste of time. But those people whose acquaintance with economics was confined to a one-year course (and they are a large proportion of all students of the subject) were either sent away thoroughly bored—if their teachers had followed the austerer path—or, in the other event, they were left with nothing but ready-made opinions on a few topical issues.

As a result of the developments in economic knowledge which have taken place during recent years, we are now (I believe) in a position to resolve this dilemma, and to do so by something better than a mere compromise between the existing alternatives. It is now possible to mark out a preliminary stage in economic study, which is wholly concerned with topics which are obviously interesting and important, and which is yet systematic enough to give some of the mental discipline necessary for study on a scientific level. At the same time, this stage

involves very little of that process of *abstraction* which is such a snare in the elementary stages of the theory of value. The ideas involved are simple and obviously sensible; the discipline is provided by the considerable demands which are made for care and patience in putting them together.

This change has come about because the chapters on definitions, which formed so indigestible a portion of the old textbooks, have been kindled into life by the work of economic statisticians, and also by some of the newer developments of economic theory. They have grown into a distinct branch of economics, a branch which is being pursued with very special success at the present time, and which is, nevertheless, particularly suited to serve as an introduction to the science in general. If we want a name for it, it might be described as Social Accounting, for it is nothing else but the accounting of the whole community or nation, just as Private Accounting is the accounting of the individual firm.

The greater part of this book is taken up with the study of Social Accounting; but in suggesting that this is probably the best way to begin the study of economics, I am not of course claiming that it can replace the conventional elementary theory and elementary applied economics. I would indeed claim that, in these days of shortened courses, a student who begins with Social Accounting will learn something useful and something worth learning, even if his studies are broken off at an early stage. But my main contention is that the other topics should come afterwards, after the groundwork of Social Accounting has been mastered. I hope and believe that when a beginner has mastered the substance of this book, he will be able to turn to the theory of value with some idea of what he wants to get from it; and that seems to be an essential preliminary to getting anything worth having.

* * * * *

So ran the preface to the first edition of this book, dated from Manchester in 1942. It could be seen, even then, that a book written on this plan could not last for an indefinite time without revision; though the principles on which it was based were (I hoped) fairly permanent, the facts which were used to illustrate those principles must become less interesting as they receded in

historical perspective. But (so I calculated) that is a defect that can be remedied; after ten years I will give the book a new dress, and then it can go on again. The ten years have elapsed, and here we are.

The task of making the new dress has, however, proved to be bigger than I had allowed for. It has not merely been necessary to replace (or to fill out) the old pre-war facts with new post-war facts; the basic classification itself has required a good deal of overhauling. For Social Accounting (the name seems to have stuck) has made great progress during the decade; its terminology has begun to settle down, and at the same time the relation between Social Accounting and the business accounting of the professional accountant has become clearer. When I wrote in 1942, I knew very little of the practice of accountants, and I am afraid that professional accountants who read my book were often bothered by needless unorthodoxy in the use of terms. I hope that they will find that the new version is an improvement. I have in the meantime had some excellent coaching in accounting usages from my fellow-members of a committee of economists and accountants which used to meet at the National Institute of Economic Research in 1947. The debts which I owe to Mr. F. Sewell Bray, to Mr. P. M. Rees of Unilever, and to my fellow economist Mr. Richard Stone, are among those of which I am particularly conscious.[1]

The main changes in this new edition are to be found in the second half of the book. Chapters I–IX have been altered very little. The apparent revolution in population prospects has meant that there was a case for drastic revision of Chapters IV and V; but I decided not to make this revision, since I am unconvinced that the significance of the change is as great as appears at first sight. Chapter X contains a new guess at a 'National Balance-Sheet'—I wish it was more than a guess, but it is not. Part IV has been very largely rewritten. It is, I hope, no harder than the old Part IV; but it should be a better introduction to the National Income White Paper in its modern form. Then, having gone so far as I had done in the new Part IV, I found myself unable to rest at that point. I have therefore added three

[1] The report of this committee has been published under the title *Some Accounting Terms and Concepts* (Cambridge University Press, 1951).

supplementary chapters (Part V) which are admittedly more advanced than the rest of the book. They will not be of much use to the beginner; but I expect that there will be some of my readers who will find them helpful.

Post-war extensions in the scope of the National Income White Paper have made it a much more comprehensive source of material than it was when I wrote my first edition. I have therefore been able to base Parts IV and V upon it almost exclusively, and have not needed[1] to plague my statistician friends for additional estimates. The obligations which I desire to acknowledge here are more general They are, on the one hand, my old obligation to the University of Manchester, which gave the opportunity and provided the stimulus for my first edition; on the other, the similar obligation which I owe for the second edition to Nuffield College. The new Parts of this book can hardly reckon, on a narrow interpretation, as 'research'; but the duties of a Fellow of Nuffield are interpreted liberally, and I shall not (I think) be regarded as having misused the college's time. I write this preface in my last month as an Official Fellow, and my new description has to appear on the title-page; but the work which has gone into the new edition is Nuffield's, and the present is therefore an occasion on which I am especially concerned to mark my gratitude to the college and its members, with whom I have lived for the last six years in such happy association.

OXFORD J. R. H.

March 1952

[1] Save in one particular instance—see p 276 below.

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INTRODUCTORY CHAPTER

ECONOMIC FACTS AND ECONOMIC THEORY

1. ECONOMICS, the subject which we are going to study in this book, is a science, one of the branches of that great systematic study of the world we live in which we call Science with a capital S. The division of Science into sciences—physics, chemistry, biology, physiology, and so on—is largely a matter of convenience; we group together in a science those particular special studies which are conveniently pursued together and pursued by the same people. This means that we cannot tell where the frontiers of a particular science will prove to be until we have developed that science; and we need not expect that these frontiers will always be found in the same place. Even between the two most highly developed of the natural sciences, physics and chemistry, the boundary is distinctly fluctuating. Chemistry deals with those aspects of the world which are conveniently studied by chemists; economics deals with those aspects which are conveniently studied by economists.

All the same, within the broad field of the sciences in general, economics belongs, without any doubt, to a particular subgroup; it belongs to the Human Sciences, the sciences which are concerned with human behaviour. There are other human sciences besides economics: there is psychology, and there is politics (the science of government); there is perhaps also sociology, a less definite science dealing with such things as religion and the family. All these touch on economics, so that the student of economics is well advised to maintain a certain interest in them; from his point of view politics is probably the most important—the dividing-line which separates it from economics is the hardest to draw. The close connexion between economics and politics is illustrated in the older name for economics—Political Economy.

Provisionally, we may say that the particular aspect of human behaviour which is dealt with by economics is the behaviour of human beings in business. Economics is the science which deals

with business affairs. But if we allow ourselves to say this, then we must be clear that business is to be understood in a wide sense. When a housewife goes into a shop to buy some bacon, the resulting transaction is undoubtedly a business transaction from the point of view of the shopkeeper, and so would fall within our definition of the subject-matter of economics. We should not so naturally regard it as a business transaction from the housewife's point of view. But once economics has undertaken the study of this piece of behaviour, the transaction has to be looked at scientifically, that is to say, in the round; economics has to pay just as much attention to the housewife's side of the bargain as to the shopkeeper's Buying the bacon is an economic question just as much as selling it.

To take some other examples. When men or women are paid wages to work in a factory, their employment is obviously a business question from the point of view of the employer. Consequently it comes into economics, but economics has to consider the worker's point of view as well as the employer's. The payment of taxes on profits is again obviously a business question; economics has to consider the payment of taxes in the round, looking at it from the standpoint of the firms and private people who pay the taxes, from that of the government which receives revenue from the taxes, and from that of the people whose wages and other incomes are paid by the government out of this revenue. Once we make these extensions—and they are absolutely necessary extensions—the subject-matter of economics loses most of the narrowness it might appear to have at first sight. The problems of profit-making business have been much more important at some periods of history than at others. But economic problems have always been of the utmost importance, and it is safe to predict that they always will be. Although there are wide stretches of human experience (the whole fields of art and religion, for example) on which economics has nothing, or nothing fundamental, to say, economic activities do occupy a large part of the life of nearly everyone, and are bound to do so. Economic science endeavours to study these activities scientifically; it has in fact made better progress in the application of scientific methods to the study of human conduct than has been made by the other human sciences. The study of economics can

therefore take us a considerable way towards a general understanding of human society, that is, of men's behaviour to one another.

2. The method of modern economic investigation is the same as the method of all science. Economics studies facts, and seeks to arrange the facts in such ways as make it possible to draw conclusions from them. As always, it is the arrangement which is the delicate operation. Facts, arranged in the right way, speak for themselves; unarranged, they are as dead as mutton. One of the main things we have to learn is how to arrange our facts properly.

Where does the economist get his facts from? It might be thought that, since the object of economics is to study human conduct in business affairs, the simplest way of proceeding would be to go to the people engaged in business affairs, and to ask them questions. But a moment's reflection will show that this is not as promising a line as it looks. Even if we are lucky, and the particular man we select is willing to tell us about the things which seem to him to be important (in practice even that is far from certain), he is unlikely to be able to tell us about other things, which may be more important from our point of view. If we ask him about something which he did six months ago, he is not very likely to be able to remember. Yet that may be just the question we want answered. It is very difficult to get systematic information in this sort of way.

An improvement upon the simple method of interviewing is the questionnaire. If a large number of people are asked the same set of questions, some will not reply, some will make guesses or answer at random, some will reply seriously. By looking over all the replies together, it may be possible to sort out the replies which are significant from those which are not. The method of questionnaires has in fact been most successful in those cases where it is possible to induce the people questioned to take some trouble over the answers; this is becoming easier than it used to be, but it still presents some difficulty to the private investigator. Early investigators into the problem of poverty used to pay people to fill in their forms; but in most cases this would be quite impossibly expensive. Now that people are becoming

used to official questionnaires, which they have a duty to answer, they can more easily be persuaded to answer questionnaires from non-official sources, provided that their interest is awakened by appropriate publicity. But the organization of such inquiries, and the digestion of the material when it has been collected, remains an expensive matter. Thus it is only in a few particular fields that we get much help from direct inquiries organized for scientific purposes; such inquiry is mainly used by economists as a means of supplementing another source of information which is, on the whole, far more valuable.

This other source of information consists in facts which have been collected for other purposes than for use by economists, but which can be used by economists. Naturally, since these facts have been brought together for other purposes than ours, there are pages and pages in these collections which are, from our point of view, sheer rubbish. But it is a perfectly feasible (though laborious) task to separate out from the rubbish the information we want.

Large quantities of facts, potentially interesting to the economist, are collected nowadays by business organizations; but the most important collections are those made by governments. Modern governments collect stupendously large quantities of facts, occasionally from pure love of knowledge, but more often for the pedestrian reason that they need these facts for the ordinary running of public affairs. A government which employs many thousands of people has the greatest difficulty in keeping its left hand informed of what its right hand is doing; publicity makes for efficiency in administration. In 'democratic' countries there is a further reason for publicity. The ordinary way of making decisions about public policy is by a process of argument, in which the pros and cons of every measure are stated by either side. Facts are required in order that this argument should take place. It is a purely incidental advantage that it provides the economist with valuable material at the same time.

When using this administrative information, it is essential to remember how it is compiled, and why; otherwise one may easily go astray. For example, when the government publishes a statement that so many persons have been unemployed on a certain date, the precise figure which is given will depend upon

the definition of unemployment used—whether people who have only been out of work for two or three days are counted as unemployed, and so on. It occasionally happens that the definition of *unemployed* is changed slightly; when this occurs, the figure given may change without there being any real change in unemployment. The definitions of unemployment which are used in the unemployment figures of different countries do in fact differ very considerably indeed; so that the international comparison of unemployment is a very ticklish matter. This sort of difficulty is one for which we have constantly to be on the watch.

3. The British Government collects and publishes material on all sorts of subjects; from the economic point of view the most useful parts of it are the series which give us economic information of a similar character for a number of different years, so that we can make comparisons.[1] Among the more important of such series are the following:

A. *The Census of Population.* A Census of Population has been taken every ten years since 1801, with 1941 the only gap in the series. Modern censuses tell us not only the number of people living in the country at the date when the census was taken; we also get information about their ages, the sizes of the families in which they were living, where they were living and what work they were doing. This detailed information only becomes available once in ten years, but some parts of it can be estimated for the intervening years in indirect ways. Thus the total population can be estimated fairly exactly by using the registrations of births and deaths, figures of which are published quarterly. A check on these estimates was available from 1939 to 1952 through the system of identity cards.

B. *Imports and Exports.* Some information about goods imported into England, and goods exported from it, has been

[1] The most convenient place to find this information is the *Annual Abstract of Statistics*, together with the *Monthly Digest of Statistics*, which is less complete but still contains a remarkable amount of information. Some similar information is available for many countries in the *Monthly Bulletin of Statistics*, published by the United Nations. These works are as essential to the economist as the bottles of chemicals on his laboratory shelves are to the chemist.

available since quite early times; a high standard of accuracy was reached after the middle of the nineteenth century. Modern 'Foreign Trade Accounts' give us both the quantities and the values of most of these goods, and also tell us where the imports come from and the exports go to.

C. *Government Revenue and Expenditure.* These are the accounts of the government, which are presented in outline when the Chancellor of the Exchequer makes his budget speech, and are published later in much greater detail. They are very important in themselves, but they also convey much valuable information indirectly. Thus the unemployment figures, to which we referred earlier, are linked up with government expenditure, because some of the government's expenditure assists in the relief of unemployment. On the tax side, our most valuable information about the level of incomes in the country, and about the inequality of incomes, is derived from the accounts of the income tax.

D. *Production.* During the twentieth century a number of Censuses of Production have been taken. These record such things as the numbers of workers employed in various businesses, the rates of wages paid, the mechanical equipment possessed by these businesses, and the amounts of goods they turned out in a particular period. Information of this sort is extraordinarily useful to the economist; it tells him just the sorts of things he wants most to know. The first census of production in Great Britain was taken in 1907, but only the larger firms were included. Later censuses have been taken in 1924, 1930, 1935, and 1948. It is only by a census of production that information of this sort is forthcoming for the whole of industry; but a great part of the field is now covered, by more or less direct methods, at much more frequent intervals. The control of raw materials, which was instituted during the war of 1939–45, and has been largely maintained subsequently, gives the government a large amount of indirect information about production. Far more is known about production today, even from month to month, than would have been thought possible before 1939.

The principal regular sources of information which are compiled by other than government institutions are the following:

i. Some Trade Unions publish figures about wages and

employment, which can be used to supplement the government figures. For the period 1880–1920 these trade union sources are very useful indeed, since government departments were not then so well informed about labour conditions as they have since become. After 1920 the government information is generally more complete.

ii. *Company accounts.* All large businesses, organized as companies, are obliged by law to publish accounts, primarily for the benefit of their shareholders. In most cases these published accounts are rather uninformative for the purposes of economic study; they do not give any more information than they have to, and that does not take us very far. But there are some important exceptions. The accounts of banks are published at very frequent intervals, and although even they do not always tell us all we should like to know, very important information can be extracted from them.

iii. *Market reports.* If you go into a shop to buy a bicycle, the shopkeeper will make a note of it for his own purposes, but no information about that particular transaction will be published. There are, on the other hand, certain kinds of purchases and sales which are carried on by professional dealers, who do find it convenient to publish a record of their transactions, so as to inform each other. These records are sometimes published in some of the daily papers (as in the case of the Stock Exchange), sometimes in specialized trade journals (as with the markets for raw materials—though the scope of these has been very limited since the war). These market reports are very useful so far as they go, but only a small proportion of all business transactions is covered by them.

There are numerous other sources of economic information, but these are the main regular types, which give us similar information for a large number of different dates. In themselves they comprise an immense mass of material—when it is put together with similar material from other countries it is enough to fill a library of considerable size. Even so, there are many economic questions we might like to have answered whose answers cannot be found within this material; that is why some part of the time of some economists is properly spent in collecting additional information, by questionnaires and so on.

But the questions which can be answered from the existing material, more or less satisfactorily, are numerous and important; however, we can only begin to answer them properly if we go about doing so in the right way.

4. There are four stages in the process of acquiring economic knowledge which can be distinguished from one another, so much so that they are often regarded as separate departments of the science. But we should be quite clear about the sense in which they are separate departments. It is not that the problems they deal with are different—the same problem is often handed on from one to another of them. It is merely that they do different parts of the work of solution.

First of all, there is the stage or department which is called *Economic Theory*. The basic function of economic theory is to prepare the questions which we want to ask of the facts. It is absolutely useless to study a mountain of facts without knowing, first of all, and very precisely and clearly, what one is looking for. We start from common sense, and the broad lines of obvious information which we derive from our daily experience; we set it in order, so as to get our questions into a useful form. It is only when we have done some preparation of this sort that we can approach the facts with any prospect of getting something significant out of them.

At the second stage we make our approach to the facts. After we have decided what questions we want to ask, we have to pick out from the whole mass of economic information described above those parts which have something to tell us about the question in hand. Then, when we have made that selection, we have to examine the information, and find out exactly what it means. This last is a very important step, as can be seen from the example of the unemployment figures which was given earlier. We have to examine how the figures were collected, and what definitions were used; we have to ask whether these definitions are the same as those we found convenient in our economic theory; if not, what adjustments can be made, on one side or the other, to allow for the difference. What is chiefly involved in this second stage is a knowledge of the material out of which we are to get our results.

In the organization of the subject, this second stage is reckoned as a part of *Economic Statistics*. The word 'statistics' is used in two senses: in the plural, to denote the numerical facts, the figures, which are the material we have been discussing; in the singular, to denote the method of handling that material. Here we are concerned with statistics in the singular.

The third stage is also a part of economic statistics. When we have got our information sorted out we shall nearly always find that it is not complete; there are matters about which we should desire to have information, but unfortunately it has not been collected in the way we want. To some extent it is possible to remedy these defects by making guesses or estimates; a good deal of progress has been made in answering the delicate question what sorts of guesses are reasonably safe and what are not. This same problem of how to make reasonable estimates arises in many other sciences; we can, to some extent, borrow the methods which they have developed for this purpose. But a good deal of care has to be exercised in doing so.

Finally, in the fourth stage, we have to arrange the facts so as to bring out the answers to our questions as well as we can. This is the stage which is usually known as *Applied* or *Descriptive Economics*. Since, as we have seen, the most useful sorts of facts are those which give us similar information for different dates, it is inevitable that the study of applied economics should come very close to that of economic history. Indeed, it is nearly true to say that economic history is just the applied economics of earlier ages; applied economics is concerned with the economic history of the contemporary world.

5. In this volume we shall be concerned entirely with the first and last of these four stages: *Theory* for the purpose of clearing our minds and sorting out the questions, *Applied Economics* to the extent that we shall give some illustrations of the sorts of answers we get to our questions when they are applied to recent history, particularly to the history of Britain between 1920 and 1950. Economic knowledge is discovered, as we have seen, by co-operation between all the four stages, each of them passing on its difficulties to the others. But for purposes of learning what has been discovered, the first and last of the

stages—the ones we are going to deal with—are the ones to begin on. Our basic ideas need to be sorted out before we can begin to think clearly about economic problems; and we have to start as soon as possible to get practice in the application of our theory to actual experience, if only because in the absence of such practice it is impossible for the theory itself to be properly understood.

The necessity for this preliminary clearing of ideas which we call Economic Theory appears at once if we reflect how many ideas are used in the ordinary practice of business whose significance is not at all directly obvious. Some of these ideas are of a technical character, arising only in some particular industry, such as bootmaking or cotton manufacture; questions of technique are not in themselves of direct interest to the economist, although of course if he desires to make a special study of some particular kind of manufacture he will need to learn something about its technique. The ideas with which economics is concerned are chiefly those which arise, not in connexion with one industry only, but with most or all industries; such ideas as 'capital', 'income', 'cost' arise in all business problems—these are the sort of ideas we have particularly to study. One of the main purposes of economic theory is to clear our minds about such terms as these. It turns out to be a more complicated matter than might at first sight be supposed. For one thing, these terms were originally invented by business men, for business purposes; but, as we have seen, the economist has to study the business world from a wider point of view than that of the business man; consequently it is necessary for him, not only to understand the business use of these terms, but also to appreciate their wider social significance. Further, when we try to work out this social significance, we find that all these ideas are very closely connected. It is impossible to understand 'income' fully without understanding 'capital' and vice versa. Economic theory therefore tends to shape itself into a system of thought, for the questions we want to ask turn out to be interrelated; answering one helps to answer others. We cannot fully understand any one of these ideas unless we have understood its neighbours as well. Answering one question shows us another question to ask, and so on almost indefinitely—but that

is of course what always happens when we ask any of those key questions about the world which lead to the growth of a science.

In Part I of this book we shall start, as we have to, with a little Theory. Beginning from common sense and everyday experience, we shall sort out our ideas until we have reached a point where we can turn to some of the statistics and hope to learn something from them. In the later parts we shall run our Theory and our Applied Economics quite closely together.

PART I

THE PRODUCTIVE PROCESS

I

PRODUCTION AND EXCHANGE

1. ECONOMIC affairs enter into the life of every one of us, the most important economic activity in the life of the ordinary man being the way he earns his living. People earn their living in all sorts of different ways—by manual work, by brainwork, in factories, in offices, and on farms, in dull ways, in interesting ways—but the thing which is common to all ways of earning one's living is the doing of work for which one is paid, doing work and being paid for doing it. In most countries the majority of people earn their living by working 'for' some particular employer; they receive their payment in the form of a wage or salary (which latter is only a word of Latin origin meaning *wage*, used instead of 'wage' so as to sound grander). But there are some people (it happens with dockers, gardeners, and journalists, for example) who may divide their time between two or three employers. And there are others (shopkeepers, doctors, farmers who deliver milk directly, and so on) who serve quite large numbers of different employers or *customers*—for it is really very much the same thing. Whatever sort of work it is that is done, whatever form the payment for doing it takes, the common element is always there: in order to earn his living a man has to work, and there has to be someone—an employer, or customer, or client—who is prepared to pay him for doing it.

Now why should the employer be prepared to pay? There are in fact several distinct cases. In the first place, an employer may be prepared to pay to have work done for him because the work is directly useful to him personally. A sick man goes to (that is, employs) a doctor because he hopes as a result to feel better in health; a householder employs a chimney-sweep so that he can warm himself at a coal fire without inconvenience; a woman employs a dressmaker because she expects to derive comfort (and perhaps pleasure) from the clothes made. In all these

instances, and in many others of similar character, the work which is performed provides something which the employer or customer directly wants; whatever the nature of the want which is to be satisfied, the fact that he is to get something which he wants explains why he is prepared to pay for the work to be performed.

In many other cases the employer is prepared to pay, not because the work done is of any use to him personally, but because he expects it to result in something useful to a third person (the consumer) who will be willing to pay for it. The immediate employer is here nothing but an intermediary; he pays his employee, and the consumer pays him. The wants which are to be satisfied are the consumer's wants, the consumer is willing to pay because he gets something he wants; the employer is willing to pay because he expects to be paid by the consumer.

The necessity of having some sort of an employer-intermediary is made evident when one reflects how many workers there are whose work is in itself absolutely useless, though it becomes very useful when it is combined with the work of other people. The typical factory worker, nowadays, is engaged on some small specialized operation, which is only a stage in the making of some part of a useful article, a part like the lace of a shoe or the chain of a bicycle. Unless there are other workers to perform the other stages, and make the other parts, his work is utterly useless. There is no point in doing work of this kind unless there is someone to organize the different operations into a unity; to do this is the work of the employer-intermediary, the business manager or director, the professional employer, who brings together the different people who have the different sorts of skill needed to produce the complete article. Such an employer is not a consumer like the man who employs a doctor or a chimney-sweep; he is a worker or producer, contributing his own very important share to the process of producing goods which consumers want. Employer and employed are in fact co-operating together in the production of something useful to consumers; they each of them derive their earnings from the payments made by the consumers, who purchase the finished articles they have produced.

Every firm or business consists in essence of a co-operation of workers, organized in some way or another to produce saleable products. But it is not always the case that the products are sold directly to consumers; very often the product of one firm is sold to another firm, which performs some further operation upon it before it reaches the consumer's hands. Even when a firm has turned out the precise material product which the consumer wants—the jam, the toothpaste, or the newspaper—there is still the further stage of providing it at the place and time where and when it is wanted; to do this is the function of the trader and the shopkeeper, who assist in satisfying people's wants just as much as other workers do. It often happens, on the other hand, that the product turned out by a firm has not yet reached the material form in which the consumer will finally want it; the products of steelworks and spinning-mills are only the raw materials of useful articles, they are usually sold to other firms, which use them as ingredients in further production. But even in these cases, although the chain connecting the particular firm with the ultimate consumer may be quite a long one, it is still there; if we take the trouble we can see for ourselves that the ultimate object of the work which is done is to assist in making something which some consumer will want, and will be willing to pay for. That consumer may be near at hand, or he may be at the other end of the earth; still he can always be found if we look for him. It is only because there is a prospect of finding a consumer at the end of the whole process, who will be prepared to pay for something he finds useful or desirable, that people can find employment in industry or in any sort of production at all.

2. Thus it appears that the whole of the economic activity of humanity (that vast complex of activities which we call the Economic System) consists of nothing else but an immense co-operation of workers or producers to make things and do things which consumers want. When it is described in this way, the economic system may sound quite an admirable thing—perhaps too admirable to agree with our experience of it. But in fact there is nothing necessarily admirable about a co-operation to satisfy the wants of consumers. The wants are usually harmless, but they may be deplorable; the methods of co-operating to satisfy

even the most respectable wants are sometimes inefficient and stupid. Yet whether the wants are good or bad, whether production is organized efficiently or not, the description still holds. Economic life is an organization of producers to satisfy the wants of consumers.

Who are these consumers for whom the world is working? To a very large extent they are just the same people as the workers and producers themselves; the same people are workers and producers in one capacity and consumers in another. The consumer who spends his money upon the product of one industry (a bicycle or a suit of clothes) has earned that money by working in another occupation (say printing or market-gardening). The bicycle makers and the clothing and textile workers spend their earnings in turn upon the products of other industries, the workers in these spend their earnings upon other products, and so on; among the various classes of workers and producers who come into the picture at one or other of these stages there will be some who will spend some part of their earnings upon the books and newspapers, the vegetables and flowers, which were the products of the printers and market-gardeners we started with.

The organization of production and consumption in the modern world is an immensely complicated affair; but if we turn our minds to the way it would be worked out in a simpler state of society, the general nature of the organization is at once apparent. Before the improvements in transport which have taken place in the last two centuries, the vast majority of the human race lived in fairly self-contained villages, villages which traded with one another in a few kinds of goods, but were in the main self-supporting. In such a village the principle upon which production has to be organized becomes clear at once. The whole thing is a system of exchanges. The farmer uses some part of his produce to satisfy his own wants, but sells some part to his neighbours. With the proceeds of that sale he buys other things which he needs—clothes from the weaver, woodwork from the carpenter, pottery from the potter. The weaver, in his turn, spends some of his time making his own clothes; but he sells most of his produce, using the proceeds to purchase the farmer's milk, or the potter's pots. And so on. 'You do this for me, and

I will do that for you.' It is on bargains of this sort that the whole organization rests.

The advantage of organizing economic life in this way arises from the increased efficiency which comes from each person having a job, and sticking to it. 'The jack of all trades is master of none.' Although excessive specialization results in monotonous work, some degree of specialization is needed before any skill can be acquired. Instead of each person working so as to satisfy his own wants alone, which would mean wasting a great deal of time in continually shifting over from one job to another, everyone becomes to some extent a specialist, concentrating on one particular job or small range of jobs. The other things he wants done are done for him by other people, and in exchange for these services he uses his skill in serving them.

The main difference, from this point of view, between the primitive village organization and the economic system of the modern world is that in the modern world specialization has been carried immensely further. The wants of the ordinary person in the twentieth century are catered for by a system of exchanges in which an immensely larger number of people take part. The ordinary worker does not do more than assist in the production of some useful article. He joins together with a large number of other workers in producing something which will be useful to others, or perhaps to some of those he joins with; the things he gets in exchange are themselves the result of extensive, even world-wide, co-operation among producers. The reason for the adoption of this complicated system is still the technical advantage of specialization; subdividing productive processes has increased the efficiency of labour, enabling all sorts of more efficient methods (particularly mechanical methods) to be introduced into production. Nevertheless, in spite of the greater complexity of the specialization involved, the principle remains the same. 'You do this for me, and I will do that for you.'

3. We have now discovered two different ways of looking at the economic system. On the one hand, we can look upon it as a co-operation of producers to satisfy the wants of consumers; on the other hand, remembering that the producers and consumers are largely the same people, we can look upon it as a

system of mutual exchanges. We shall find, as we go on, that it is very useful to have these two different points of view from which to approach our subject. Some things will be clearer from one of these standpoints, some from the other; and we can use one as a check against the other. It will be particularly useful when we come to making the fundamental classifications, which will occupy us in the next two chapters, to be able to check them up from each of these points of view. But before we proceed to that, we ought to satisfy ourselves that our treatment of the system as one of mutual exchanges is really correct, and not subject to qualifications. There are certain difficulties which do undoubtedly present themselves, and of which we ought to take proper account.

First of all, there is the question of money. Although the ultimate object of anyone who works or produces is to acquire useful things in exchange for his work, the immediate way he gets paid is not in the form of directly useful things, but in the form of money. The printer and journalist do not supply their customers with newspapers, getting bread and meat and clothes in direct exchange; they sell their newspapers for money, and then spend the money upon the things they want to buy as consumers. There is an obvious convenience in this arrangement. It must often happen that the people who supply the printers with clothes do not want to take newspapers to the full value of the clothes; if they had to take payment in newspapers, they would be obliged to resell the newspapers to another set of people; this would take time to arrange, and would be quite horribly inconvenient. To replace these complicated resales by a simple handing-on of tickets—for that is really what it amounts to—saves an immense amount of trouble. The people who sell clothes to the printers do not take payment for them in newspapers but in tickets—that is, money; if they like, they can spend some of the money on newspapers, but if they prefer to spend it on bread and cheese, there is nothing to stop them. If they pass on the money to makers of bread or cheese, these people can spend it on newspapers, or they can hand it on to someone else to spend on newspapers, or it can be handed on again. The use of money enables indirect or roundabout exchanges to take place, without the goods which are exchanged

having to be passed on unnecessarily from one person to another. That is the advantage we get from the use of money; it increases the flexibility of the system of exchanges to an extraordinary extent. But it does not make much difference to the essence of the system. Instead of newspapers being exchanged for clothes directly, the exchange takes place in two stages—the newspapers are sold for money, the money is spent on clothes. And so long as the money is only acquired for it to be disposed of again without abnormal delay, the division into the two stages proceeds quite smoothly. But circumstances do sometimes arise in which the second stage of the exchange is unduly delayed; goods are sold for money, and yet the money is not spent again until a considerable time has elapsed. When this happens on an unusual scale, the result may be that the system of exchanges gets clogged. The world has had some bad experiences of this sort during the present century; the economic system has shown itself capable of developing monetary diseases of several different kinds. The Theory of Money, which is a special department of economics, is particularly concerned with studying these diseases; most of it lies outside the field which we shall study in the present volume. But it is impossible to study economic problems at all realistically without paying some attention to these matters, so that we shall be bound to encounter some aspects of these monetary diseases even here.

Another complication comes from the ownership of property. Most useful goods cannot be produced by human effort alone; the worker needs tools to work with and materials to work on. The products of agriculture are produced from the land; the products of mechanical industry are produced with machines; if agricultural land and industrial plant are in private ownership, the owners of these useful resources may be able to exact a price for their use. That is to say, people may acquire tickets which entitle them to purchase other people's products, not by contributing their labour to the productive process, but by allowing the use of their property. This is a matter of the most profound social significance, since some of the deepest divisions in society turn on the distinction between capitalist and worker; as we go on, we shall find that economics has to concern itself with these divisions to a very considerable extent. All the same, our double

description of the economic system does not appear to be affected by the private ownership of property. The owner of property contributes to the productive process by allowing the use of his property in production; to this extent he has to be reckoned as a producer. He exchanges the use of his property for a share in the products of industry, in this way he enters into the system of exchanges. It is quite true that he gets these advantages much more easily than the worker does; or if (as is usually the case) he is also a worker, he gets a larger income than other workers get from the performance of similar work. If we decide, on the ground of convenience, to reckon the owner of property as a producer, we must not allow ourselves, in consequence of this decision, to beg any questions about the desirability of private property as an institution. The institution of private property has to be tried by more searching tests; but we shall find it easier to apply those tests if we begin by getting a clear idea about the working of the system in which private property functions.

The only real qualification to the rule that the economic system can be looked on as a system of exchanges comes from the economic activities of governments, national and local. Some part of the money which people receive, in return for the labour they have performed, or for the property they have allowed to be used, is taken away from them by public authorities in taxes and rates. In order to see how these taxes fit into the system, we must consider the purpose for which they are raised. Governments sometimes raise taxes in order to make presents to some of their own citizens or to foreigners; under this heading would come such things as tribute to a foreign power, pensions to the ex-soldiers of past wars, relief to the unemployed. All these things are just compulsory gifts from one set of persons to another; some of them are very sensible and desirable, some very undesirable. But some of the taxes which are raised by governments are raised for another purpose: they are raised in order to pay for the employment of people to do work for the good of the community in general—as, for example, soldiers or policemen or road-menders. These people work to satisfy the wants of consumers; their work is part of the Productive Process, but it does not result in the production of such things as can be bought by individual consumers, though consumers in

general do undoubtedly desire that they should be provided. The wants which are satisfied by work of this sort are collective wants, not individual wants. During war-time a very large proportion of a nation's productive power is turned over to the satisfaction of collective wants, for the whole of the armed forces and of the munition industries must be reckoned as working to that end. Even in time of peace, the number of people whose work has to be reckoned as being directed to the satisfaction of collective wants is usually very considerable.

It might be supposed, at first sight, that the proportion of its population working for the satisfaction of collective wants would be a measure of the degree of socialization reached by a particular nation. But that is not so. Even in a completely socialized state, like Communist Russia, where the government is very nearly the only employer of labour, the proportion of persons working to satisfy collective wants need not be abnormally high. For in a socialist state the government does not only control the production of those things which are wanted collectively, it also controls the production of things wanted individually. (There are, of course, little bits of socialism in this sense in almost all countries—nationalized railways, municipal gasworks, and so on.) In a socialist state people work for the government, whether they are producing collective goods, like roads and parks and military aeroplanes, or individual goods, like food and clothing. The roads and military aeroplanes are paid for by the public out of taxes, but the food and clothing are bought from the government, just as they would be bought from private producers in a community which was not organized in a socialist manner. Over the greater part of the field the socialist government merely acts as an intermediary, in the same way as the private employer. Thus there is nothing in socialism, as such, to prevent us from regarding the economic system as a system of exchanges. Indeed, most of the economic theory in this volume can be applied to a socialist state, just as much as to one which is based on a system of private enterprise. In either case we can look upon the economic system as a co-operation of producers to satisfy consumers' wants (including collective wants); or alternatively (apart from the qualification about taxation) we can look upon it as a system of mutual exchanges.

II

GOODS AND SERVICES

1. As soon as we have understood the double nature of the economic system, as it was explained in the previous chapter, we can see that it will be convenient to shape our further classifications in ways which will fit in with each of the two aspects. Henceforward we shall mean by *production* any activity directed to the satisfaction of other people's wants through exchange; we shall use the word *producer* to mean a person engaging in production in this sense. A person whose wants are satisfied by such production we shall call a *consumer*. Previously we have used these terms in a looser manner; from now on we shall try to confine them to these precise senses.

Let us see what we are committed to by these definitions. The words *producer* and *consumer* are widely used in ordinary speech and in business; but in practical life they do not need to be used very precisely or uniformly, so that they are often used in senses which do not square with our definitions. Farmers, for instance, are fond of drawing a contrast between their own activities as 'producers' of foodstuffs and those of the traders or retailers, who merely sell or 'distribute' them. On our definition the retailer is a producer just as much as the farmer. The work done by the retailer is a part of the process of satisfying consumers' wants, just as much as the work of the farmer. Milk on the farm and tobacco at the factory are of little use to anyone except the farmer and the manufacturer themselves; milk on the doorstep and tobacco in the shop are provided, more or less, where and when the consumer wants them.

The reason why people have been able to persuade themselves that farmers are producers, while retailers are not, is of course that the word 'production', used in other senses than the economic, suggests the making of something material, something you can touch or handle, something you can cart about on a lorry or bring home in a paper bag. A very great part of economic production does consist in the making of material goods, but quite a large part does not. The trader and retailer deal with

material goods, but they do not make them; their part is to take goods already made, and to make them more useful by supplying them at the places and times at which they are wanted. But there are many sorts of workers who are not concerned with the production of material goods at all; doctors, teachers, civil servants and administrators, passenger transport workers, entertainers, domestic servants—all of these are producers in our sense, though they do not produce material products. They do useful work and are paid for it; consequently they count as producers. The things they produce are useful services, not material goods; it is convenient to say that the things produced by producers and consumed by consumers are of two kinds—Goods and Services, material goods and immaterial services.

The performance of such services as these is included in production; but if we are to be faithful to our definition, we may not say that all performance of services for other people reckons as production. Production is activity directed to the satisfaction of other people's wants through exchange; thus it is only those services which are paid for that have to be included. The most important kind of services which, on this test, have to be left out are the services performed within the family—the work done by wives for their husbands, by parents in looking after their children, and so on. These services are not to be reckoned as productive, because they are not paid for. It is of course not very convenient that we have to exclude this essential work from our definition of production, but there does not seem to be any help for it, if we are to have the advantage of using words in precise and well-defined ways.[1] The fact that we have excluded it from our definition does not absolve us from keeping the fundamental importance, the fundamental economic importance, of this sort of work very much in our minds.

2. There was a stage in the development of economic thought when the inclusion, in the definition of production, of those direct services which are paid for was not accepted even by economists. Adam Smith himself confined the term 'productive labour' to that labour which is devoted to the production of

[1] A further discussion of this, and of some related subjects, will be found in Appendix, Note A.

material goods. In a famous passage[1] he gave a list of such occupations as must be reckoned to be 'unproductive'. Beginning with 'menial servants', he goes on:

> The sovereign, for example, with all the officers both of justice and of war who serve under him, the whole army and navy, are unproductive labourers. . . . In the same class must be ranked, some both of the gravest and most important, and some of the most frivolous professions. churchmen, lawyers, physicians, men of letters of all kinds; players, buffoons, musicians, opera-singers, opera-dancers, &c.

This looks like the same fallacious, or at least uneconomic, way of thinking as is common among those who approach economic affairs from the standpoint of the technical processes of manufacture; it is strange to find it in the most famous of all economists. The manufacturer and the farmer naturally think of production as *making* something; we have seen that economics has to have a wider definition. Why did Adam Smith suppose the contrary? It was not because he supposed the distinction between material and immaterial products to have any economic significance; his reason was more subtle. Later economists have not been prepared to allow their definition of production to be influenced by it, but they have had to pay much attention to it in other parts of their economic theory. Adam Smith put it in this way:

> The labour of the menial servant does not fix or realise itself in any particular subject or vendible commodity. His services generally perish in the very instant of their performance. . . . Like the declamation of the actor, the harangue of the orator, or the tune of the musician, the work of all of them perishes in the very instant of its production.

The reason why Smith adopted his odd definition of production was because he was impressed by the fact that the production of most goods takes time, often a very long time, and the consumption of these goods comes afterwards. The significant thing about direct services is that the acts of performing the labour and of enjoying the results of the labour are contemporaneous and inseparable. Goods, on the other hand, have to be

[1] *Wealth of Nations*, Book II, ch. 3 (vol. i, p. 314 in Cannan's edition).

produced first and consumed afterwards. The production and consumption of services are, practically speaking, instantaneous, but the production and consumption of goods form a process. The further classifications, which will concern us in the rest of this chapter and in the next, are all concerned with the economic system considered as a process.

3. On a certain day (say in the spring of 1950) the reader of this book will probably have eaten a piece of bread for breakfast. Behind that piece of bread was a considerable history. Two or three days earlier it was baked by a baker, who for his stage in the process of breadmaking used various ingredients, notably flour. Some weeks earlier the flour will have been milled out of wheat, various kinds of wheat being very probably mixed together, some imported from overseas, some produced at home. This wheat will have been harvested, probably during the year 1949, the precise date depending upon the part of the world from which it came. Some months before the time of the harvesting the wheat must have been sown, and before the sowing the land on which it was grown must have been ploughed. Taking this simple line of operations, from the ploughing of the land to the bread on the table, not much less than a year can have elapsed between the start and the finish. Often it will be a good deal more than a year. But this is by no means the whole of the history behind that piece of bread.

At every stage in the process described, ploughing, sowing, harvesting, threshing, milling, baking, power or fuel was needed. The power used for ploughing may have been nothing more modern than the traditional horse; if so, that horse had to be fed, its feeding-stuffs had to be grown, and the growth of the feeding-stuffs extends the process of production backwards for another series of months. Or the power may have been provided by a tractor; tractors use oil, so that the getting of the oil and its transport to the farm (another stage involving at least a month or two) have also to be reckoned into the process of production of the bread. The same will hold for the power (of whatever kind) used in harvesting, threshing, and milling; also for the coal or electricity used at the bakery. Of course many of these latter processes will be going on simultaneously, so that they do

not lengthen the total time taken by the production. Nevertheless, when we have taken the power into account, the whole period looks more like two years than one.

Even this is not all. The tractor, the threshing-machine, the ships used for bringing the wheat from overseas, the elevator used for storing it, the milling machinery used for making the flour, even the baker's oven—all these had to be made at some time or other, and the reason why they were made was because they would be useful in the manufacture of bread. Not of course this particular piece of bread, which is far too humble an article to be able to claim for itself alone such mighty antecedents; but this piece of bread, and millions like it, are the reasons why the tractors and elevators and ovens and the rest of them were brought into being. All this elaborate equipment was in fact constructed as part of the process of manufacturing bread.

If at some date, three months or six months or a year before the bread appeared upon the table, we had examined how the process of producing it was getting on, we should have found that most of the equipment was already made and in use, while the raw material of the bread was still in the form of growing crops, or threshed wheat, or bags of flour. These things can all be looked upon as stages in the manufacture of the bread; whatever stage has been reached, even if it is only the making of the tractor, or the building of a tanker to transport the oil to feed the tractor, something has been done which will come in useful and help towards the final production of bread. The products which result from these early stages are useful products, but not products which are directly useful for satisfying the wants of consumers. Their use is to be found in their employment in the further stages, at the end of which a product which is directly wanted by consumers will emerge. It is convenient to use the term *goods* to cover the products of these earlier stages, as well as the final product which the consumer purchases. But the products of the earlier stages are called *producers' goods*, to distinguish them from the *consumers' goods*, which do satisfy the consumers' wants directly.

In our illustration the bread is a consumers' good; the wheat, the flour, the tractor, the ship, the oven (and so on) are producers' goods. A producers' good may be technically finished,

in the sense that the particular operation needed to produce it is completed (the wheat has been harvested, or the tractor ready for use). Or it may not be technically finished, but still in process, even so far as its own stage is concerned (the corn may be standing in the field, or the ship still on the stocks). In either case it is a producers' good, because further stages are needed before the result of the whole process can pass into the consumers' hands. The consumers' good is the end of the whole process; producers' goods are stages on the road towards it.

4. The production of any consumers' good one cared to select could be similarly shown to consist of a process, occupying in all quite a considerable time, and involving the production of a number of producers' goods on the way. It has next to be noticed that with some consumers' goods, but only with some, consumption is also a process taking an appreciable time. Consumers' goods can be divided, from this point of view, into two classes.

In the first class we have goods, like the bread of our example (and foodstuffs generally), which are used and used up in a single act. The careful housewife may make a loaf of bread last two or three days, but only by dividing it into slices, and consuming the slices at intervals. Each piece of bread is used up as soon as it is used at all. Other consumers' goods which are of the same type are fuel, tobacco, matches, and writing-paper. I shall call these goods *single-use goods*. From the point of view of consumption, services are similar in character to the single-use goods,[1] but, as we have noticed, they are different on the production side.

The other goods I shall call *durable-use goods*. Houses, furniture, clothes, wireless sets, bicycles, and motor-cars are examples of this second class. Their common characteristic is that they can go on being used for considerable periods. The fact that they have been used on one day does not prevent them from being used again on the next. The lengths of time for which they can go on being used vary of course a good deal.

[1] It is of course true that the effects of consuming a particular service may last a long time through being stored in the memory; this, however, does not prevent the consumption itself being a single act. In the same way, the medicine which saves a man's life is a single-use good; but its effects remain as long as he lives.

A pencil is probably to be reckoned as a durable-use good, in spite of the fact that it is bound to wear out after a few months of use. At the other extreme are such things as old furniture, which can go on being used almost indefinitely (apart from accidents), so long as it is properly looked after and kept in good repair.

The distinction between single-use goods and durable-use goods must not be confused with another distinction, of very similar character, which is commonly made in books on economics. It has been usual among economists to classify consumers' goods into *durable goods* and *perishable goods*; these classes are similar to ours, but they are not exactly the same. *Durable-use* goods are necessarily *durable*, but not all *single-use* goods are *perishable*. Coal, for example, is a very durable good; it can be stored almost indefinitely, and will not deteriorate seriously, so long as it is not used. But it cannot be used without being used up. Thus it is a single-use good. There are many other single-use goods which have a fair degree of durability; tinned and otherwise preserved foods are instances. The fact that they are capable of being stored is an important characteristic of these goods, a characteristic with important economic consequences. But, for the present at least, it is not the characteristic we want to emphasize. The main classification of consumers' goods is into the single-use and durable-use varieties.

The goods which are purchased by a particular consumer belong partly to one of these varieties, partly to the other. Most of the single-use goods which are purchased have to go on being purchased, week after week, day after day. To have had a good meal yesterday does not prevent one from wanting another good meal today; to have been warm last night does not prevent one from needing to be warmed again this afternoon. Durable-use goods, on the other hand, may go on being useful for long periods after they have been bought; thus they do not need to be bought continuously, but only when the want for them first appears, or when an old one has broken down or become impossibly shabby. It follows that while the purchase of most sorts of single-use goods will take place at fairly regular intervals, purchases of durable-use goods may be very irregular. This is a matter of considerable importance for the running of the

productive process. If all the goods which consumers wanted were single-use goods, it would be comparatively easy to organize the economic system so as to keep it running continuously at the same level of activity. The production of durable-use goods is much harder to stabilize, just because the need to purchase such goods is so much less regular. Nevertheless, durable-use goods are of great importance to the consumer; although food and warmth, the most urgent necessities, are single-use goods, some durable-use goods are essential at any standard of living, while at a higher standard they provide more solid satisfaction than single-use goods can do Luxury single-use goods mainly take the form of entertainment; luxury durable-use goods range from good housing and good clothing to books and pictures and musical instruments and garden plants, the typical ingredients of a civilized life. People who buy these things can satisfy their wants for them without buying them so regularly as they would buy food; it is in consequence more difficult to arrange for their production in ways which may not involve economic disturbances. Very much the most difficult case is that of housing; we shall discuss it in more detail in another connexion.[1]

5. A similar distinction between single-use and durable-use varieties can be made for producers' goods. Some producers' goods are used up—though this may only mean that they have passed on to the next stage in their production—as soon as they are used at all; others can go on being used in the same way for long periods. In the illustration we gave, the wheat, the flour, and also the oil and the electricity were single-use goods in this sense; the tractor, the ship, and the bakers' oven were durable-use goods. Generally speaking, single-use producers' goods are the materials used in industry; though half-finished products ought also to be reckoned as single-use goods at another stage. Durable-use producers' goods are the instruments of production —tools, machinery, industrial plant of all kinds. The production of durable-use producers' goods is perhaps even harder to stabilize than the production of durable-use consumers' goods—for much the same reasons. But we are not yet in a position to deal with such questions.

[1] See Ch. VIII below.

III

CONSUMPTION AND INVESTMENT

1. We have now got a general idea of the productive process; but before we can turn to the facts, and try to make sense of them, we need yet another set of definitions. The processes of production and exchange which we have been describing go on more or less indefinitely; they have gone on since the dawn of history, and will go on as long as the human race exists; although it is true in one sense that particular processes come to an end every day with the completion and sale of finished consumers' goods, these goods have usually been produced along with many others (the durable-use producers' goods used in making them are for the most part still in existence, and being used again), so that it is very difficult to find a self-contained process which can ever be said to be really over, just as we have seen that it is very difficult to find a date when it can really be said to begin. The only way in which we can limit our investigations, so as not to have to deal with the whole of human history at once, is to select a particular period of time and to confine our attention to the working of the productive process during that period. Usually (though not always) the period which it is most convenient to take is a year.

The statistics of production which were described in the introductory chapter of this book usually refer to annual periods. They must of course always refer to some period. There is no point in saying that the number of aeroplanes produced is 1,000, unless one states the time to which this output refers. An output of 1,000 aeroplanes spread over two months is the same rate of output as 500 aeroplanes in one month. All measurements of the quantity of production have to refer to a stated period. If we are to use our definitions so as to square with these measurements, our definitions too must refer to a particular period of time.

Let us therefore fix our minds on the working of the productive process during a particular year—say, 1950. We must think of the whole stream of time as being spread out before us,

like a film which has been unwound. We take our scissors and cut out a particular section of the film. Or we may say that we put a spotlight upon this particular year, leaving everything before it and after it in the dark. What is the effect of this limitation upon the classifications we have given?

2. During the year producers will be turning out services and goods of all kinds, single-use goods, durable-use goods, producers' goods, consumers' goods. Most of the single-use goods will be used up in the course of the year, the consumers' goods in the direct satisfaction of consumers' wants, the producers' goods in the making of consumers' goods. It is fairly evident that single-use producers' goods, produced and used up during the year, ought not to be reckoned as part of the total production or output of the year. If we were to include both the bread and the flour out of which it is made, we should be reckoning the same productive effort twice; if we did this, there would be no reason why we should not include the wheat as well, and even the wheat standing in the field as well as the threshed wheat after it had been harvested. Once we allowed ourselves to reckon in both the single-use consumers' goods and the single-use producers' goods out of which they are made, there would be nothing to stop us from dividing the process of production into a large number of stages, and counting what is essentially the same product as many times as we like. This would make the result of our calculation completely arbitrary. 'Double counting' of this sort has clearly got to be avoided.

Those single-use producers' goods which are produced and used up during the year must not be counted as part of the year's production. But does this mean that all producers' goods have got to be excluded? At first sight one might suppose so, but that is not the case. For the production we are concerned with is the production of the year 1950, and some of the durable producers' goods produced during 1950 will outlast 1950. We have to pay special attention to the hang-over from one year to another.

At the beginning of the year (the morning of 1 January 1950) there exists in the community a particular stock of goods, including some from all our four types, but among which the durable-use goods are no doubt predominant. These goods are

inherited from the previous year; for the most part they are the result of production in that and in earlier years. The durable-use consumers' goods inherited from the previous year include the houses people are living in, the furniture they are using, the clothes they are wearing, and so on. The durable-use producers' goods will include the factories, the machinery standing in the factories, the railways, ships, lorries, tools, and so on which are available for use in production during the coming year. The single-use producers' goods which are inherited will include stocks of materials, goods undergoing processes that are still unfinished, finished goods waiting to be sold. The single-use consumers' goods (not so many of these) will include such things as foodstuffs already in the larder; remembering that the retailer is also a producer, foodstuffs in the shops ought to be reckoned as producers' goods.

This is the position at the beginning of the year. Then the wheel of time rolls on, and the wheels of production begin to turn. The goods in the larder are used up, and replaced by new goods out of the shops—that is to say, producers' goods pass into consumers' goods. At the same time, the vacant places in the shops are filled by new producers' goods coming forward—that is to say, the materials existing on 1 January are worked on by labour, with the help of durable-use producers' goods, and turned by degrees into finished products. At the same time, other workers, using other durable-use producers' goods, are preparing new materials. And other workers are making new durable-use goods. So the process goes on, with a continual stream of new consumers' goods passing into consumption, and new single-use producers' goods poking their heads out of the productive process, only to be tucked in again.

Those producers' goods which are produced during the year, and used up in further production within the year, do not reckon as part of the year's output. They are taken to be included in the consumers' goods of which they are the materials. If we were allowed to extend our gaze into the indefinite future, we should presumably find all the producers' goods incorporating themselves in consumers' goods in this way; but we are not allowed to look forward indefinitely. The year has an end as well as a beginning; many of the consumers' goods in which the

producers' goods of this year will be incorporated belong to future years, not to this year. There will be producers' goods left over at the end of this year, just as there were producers' goods left over to this year from the year before.

There is no reason why the quantity of producers' goods bequeathed to 1951 should be the same as that inherited from 1949. The single-use producers' goods inherited from 1949 will, for the most part, have been used up in the production of 1950; new goods will have been produced to replace them, but these new goods may be greater or less in amount than the goods which have been used up. Some of the durable-use producers' goods inherited from 1949 will also have been used up, or worn out, during 1950; and even those which are not worn out will be a year older in January 1951 than they were in January 1950; this will often mean that they have a year's less 'life' left in them Against this *depreciation* of the durable-use goods previously existing has to be set the production of new durable-use goods; but the depreciation may or may not be completely offset by the new production. If it is not completely offset, the quantity of such goods at the disposal of the community will be less at the end of the year than it was at the beginning; if it is more than offset, the quantity at the end of the year will be greater.[1]

The same process of using-up and replacing will occur with consumers' goods as well. 1950 will have inherited from its predecessors certain quantities of consumers' goods (mainly durable-use goods, houses, and so on); it will hand on certain quantities to its successors. One of the tests of successful productive activity during the year is to be got by comparing the quantities at the end with those at the beginning.

3. The process of production during the year can therefore be described in summary fashion in the following way. At the beginning of the year there exists a certain stock of goods (all our four kinds) which we may call the Initial Equipment. During the year the initial equipment is worked upon by Labour, and there is produced from it a stream of goods. Some of these goods are producers' goods, used up again within the year, so

[1] For some qualifications to this statement, see Appendix, Note C.

that they do not reckon into the year's output; the goods which are included consist partly of consumers' goods, consumed within the year, partly of new equipment, added to the initial equipment as a result of the year's production. The equipment which exists at the end of the year becomes the initial equipment of the next year, it equals the initial equipment of the first year *plus* the new equipment which has been added *minus* the using-up of equipment which has taken place within the year. This is the scheme of the productive process which we need to have in our minds.

All the product or output of the year comes from labour and the initial equipment; these are therefore called the Factors of Production. The output of goods consists either of consumers' goods, consumed within the year (Consumption) or of New Equipment. We can therefore set out our scheme in the form of a table:

Factors of Production	Labour——Initial Equipment
Product or Output	Consumption New Equipment

And for the effect on equipment of the year's production

initial equipment 1951 = initial equipment 1950
+ new equipment produced in 1950
— using-up of equipment during 1950

The classification set out in this table is of fundamental importance for the whole of that part of economics which we shall study in this book. Everything further we have to say is nothing but elaboration of it and application of it to practical problems. For when theory has reached this point, it does begin to be capable of being applied.

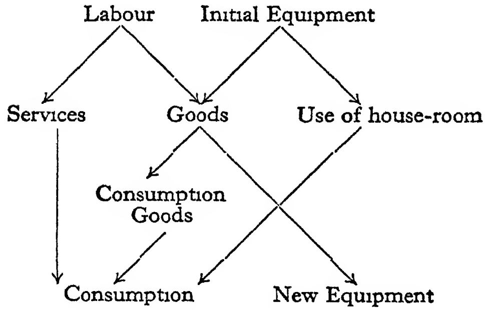
4. Before we can proceed to these applications, it should first be noticed, however, that the table as it stands is not quite complete. In the first place, services have been left out of account, as Adam Smith left them out of account—and for what turns out to be substantially the same reason. Just as we have been learning to do, Adam Smith thought of the productive process

as consisting of labour working on initial equipment, and making it grow into consumption goods and new equipment. And services did not fit into the picture properly; consequently he excluded them as 'unproductive'. We have decided not to take that way out, and so we must find some way of fitting services into our picture. We can really do so quite easily, if we include the services produced in the year as part of the consumption of the year, and allow for the possibility that these services may have been produced by labour alone, without making use of initial equipment to any important extent. (Of course—and this is even more true today than it was in Smith's time—services may require the assistance of durable-use goods from the initial equipment if they are to be produced; for instance, passenger transport workers provide direct services, but they use a great deal of equipment in providing these services.) This, then, is one of the adjustments which have to be made.

The other adjustment concerns the durable-use consumers' goods, which are included in the initial equipment, and do in fact form an important part of it. Take, for example, houses. The houses which exist at the beginning of the year do for the most part go on being used during the year; they make themselves useful, very useful indeed. The use of a house is a thing for which people are prepared to pay; a man pays rent for the right to live in a particular house, just as he pays for the goods he (or his wife) purchases in the shops. We reckon the goods purchased in the shops as part of the consumption of the year, and since house-room is purchased by consumers in the same sort of way, it is convenient (even if it means some stretching of terms) to reckon the use of house-room as part of the consumption of the year, and consequently even to reckon it as part of the production or output of the year. There is something to be said for doing the same with all the durable-use consumers' goods contained in the initial equipment (the motor-cars, for example). But, largely because houses are very frequently rented by their occupiers, while motor-cars are usually bought outright, it is usual to include in this way only the use of houses.[1] Houses are in any case the most important type of durable-use consumers' goods.

[1] See again Appendix, Note A.

Our revised table may therefore be written as follows:



The new-houses produced during the year are of course included in the new equipment.

5. Our table is now complete, but before we can use it we must introduce two new terms. Instead of our phrase 'Initial Equipment', economists usually employ the term 'Capital'; instead of our phrase 'New Equipment' the term 'Investment' is now generally used. We had better familiarize ourselves with these important words.

I have so far avoided talking about *Capital* and *Investment*, because these are such outstanding instances of the way in which economists have taken words used by business men and given new meanings to them, meanings which are not (at least on the surface) the same as the business meanings. There is a relation between the meanings of capital and investment in economics and their meanings in business practice; we shall try to get that relation cleared up before we are done. But for the moment it is only the economic meanings which concern us.

In economics the capital of a community consists in the stock of goods of all sorts possessed by the community (either by its individual members, or by associations of its members, such as governments) at a particular moment of time. Thus our 'initial equipment' is the capital possessed by our community on 1 January. In economics investment is the making of additions to capital. Thus the making of our 'new equipment' is investment.

In this terminology the factors of production are labour and capital.[1] The goods and services produced by the factors of production are partly consumed within the year (consumption), partly used to make additions to capital (investment). In order to produce these goods and services, some part of the capital possessed at the beginning of the year is used up (Depreciation[2] of Capital). The net addition to capital within the year is therefore the total production of additions to capital, with depreciation deducted. This net addition to capital is called Net Investment. Consumption *plus* Net Investment *equals* Net Product.

The definitions given in this last paragraph will become familiar enough as we go on. For the whole programme which lies before us is involved in these definitions. In the next two parts of this book we shall study the factors of production—labour and capital. In the last part we shall study the net product of the economic system; we shall discuss how it is measured, we shall examine some of the reasons for variations in its size, and we shall examine how it is divided up among different people, so that some are rich and some poor. All these things are developments of the fundamental classifications which we have been giving.

Let us then pass on to discuss the factor of production labour. The first problem to be discussed under that head is the problem of Population, for although not all the people living in a country are producers, it is the total population of the country which mainly governs the number of workers who are available to take part in the process of production.

[1] Land, which nineteenth-century economics used to reckon as a third factor of production, is here included in capital. For the justification of this arrangement, see below, Ch. VIII.

[2] The business man employs the term 'depreciation' to include the using-up of durable-use goods only. Here we use it in the wider sense, more convenient in economics, which includes the using-up of such single-use goods as are not replaced during the year in identically the same form.

PART II

THE FACTORS OF PRODUCTION—LABOUR

IV

POPULATION AND ITS HISTORY

1. LET us begin by looking at some figures. The following table sets out, in round numbers, the population of a number of countries at various stages in modern history. Since the taking of accurate censuses only began in the United States in 1790, in Great Britain in 1801, and in the other countries at various dates in the nineteenth century, it will be understood that the figures for 1650 are only guesses (though they are careful guesses),[1] while some even of the figures for 1800 and 1850 are not very much better. It is only in the later columns that all the figures are known precisely, but it is not likely that any part of the table is seriously misleading. There have, of course, been some important changes in frontiers during the period; the most important changes have been allowed for.[2]

TABLE I

Population (in millions)

	1650	*1800*	*1850*	*1900*	*1950*
Great Britain . .	6	10	21	37	49
France . . .	16	27	35	41	41
Germany . . .	14	20	35	54	70
Italy	13	17	24	32	46
U.S A. . . .	..	5	23	75	151
Ireland . . .	1	5	6½	4½	4⅓

When a table of this sort is being examined, it is not the individual figures by themselves which deserve attention; it is

[1] They are taken from G. N. Clark, *The Seventeenth Century*, ch. i.

[2] Thus France always includes Alsace-Lorraine, Ireland includes Northern Ireland, while the Germany of 1950 includes East and West.

the comparison of one figure with another. (This is why it is sufficient to work in round numbers; comparisons can be made more easily if the figures are given approximately; detail would distract the eye, without adding anything of importance.) In the table before us, at least two kinds of comparison can be made. By looking down the columns we can compare the populations of different countries at the same dates; the points which then emerge are mainly of political interest, though of very great political interest indeed. The greatness of France under Louis XIV and under Napoleon is reflected in the relatively high population of France in the 1650 and 1800 columns; the strength of Germany and the weight of the United States in the modern world are indicated in the columns for 1900 and 1950. Military strength is not entirely a matter of population, but population is an important element in it.

From the economic point of view a study of the table by horizontal rows is more instructive. Every one of the countries in the list (with the exception of Ireland—included just because it is an exception) shows increases in population throughout the whole period; usually they show enormous increases. The increase in population which has taken place in Europe and America during the last three centuries is one of the most stupendous facts in history; it is quite probable that nothing like it had ever been seen before. But when we look at the table more closely, it becomes apparent that the increase has not proceeded at all smoothly or regularly; it has been much faster at some times and places than at others. It will be useful to examine these variations in detail.

At first sight, the simplest way of comparing the rates of increase at different stages would seem to be by calculating the percentages at which the various populations increased between 1650 and 1800, 1800 and 1850, and so on. But since the intervals between our dates are of different lengths, these percentages would be less informative than one could wish. It is better to calculate the *average* rate of increase in each of the intervals—that is to say, the annual rate of increase which, if maintained over the whole interval, would have resulted in the actual increase of population which we find. Since the annual rates of increase are of course small (many of them less than 1 per cent.),

it is more convenient to express them as rates per thousand than as rates per hundred (percentages).[1]

TABLE II

Average rates of population increase (per thousand) per annum

	1650–1800	*1800–50*	*1850–1900*	*1900–50*
Great Britain .	3	14	11	6
France . .	3	5	3	0
Germany .	2	11	9	5
Italy . .	2	7	6	8
U.S.A. . .	..	31	24	15
Ireland . .	9	5	−16	−1

The first thing which strikes one when looking at this new table is the extremely rapid rate at which the populations of nearly all the countries were expanding during the interval 1800–50. Even the French, whose rate of increase has nearly always been slow, increased faster than usual during this half-century. Ireland, which again looks like an exception, is here less of an exception than it looks; the Irish population continued to increase at a rate of 9 per thousand until 1840, but between 1840 and 1850 it started falling, as a result of the potato famine. The general impression one gets from the table as a whole is that the history of population during the last two centuries has passed through two distinct phases, during the first of which there was a great acceleration in the rate of growth of population, while during the second the brake was put on more or less violently. These are in fact the two phases which have to be explained.

Changes in population come about in two ways: by Natural Increase or Decrease (excess of births over deaths, or vice versa), and by Migration. The figures in our tables are affected by migration to an appreciable extent, but not sufficiently to disturb the general pattern. The population of the United States has been greatly increased by immigration; but the great mass of the nineteenth-century immigrants came in after 1850, so

[1] In order to calculate the annual rate of increase which would turn a population of 6 millions into one of 10 millions in 150 years, we have to solve the equation $\left(1+\frac{x}{1000}\right)^{150} = \frac{10}{6}$. Take logarithms of both sides and it comes out at once.

that the astounding rate of growth of American population during the early nineteenth century (31 per thousand per annum) was almost entirely a natural increase. What the immigrants did was to prevent the increase from slowing up as rapidly as it would have done without them. The decline in Irish population after 1840 was largely a result of emigration, but not entirely.

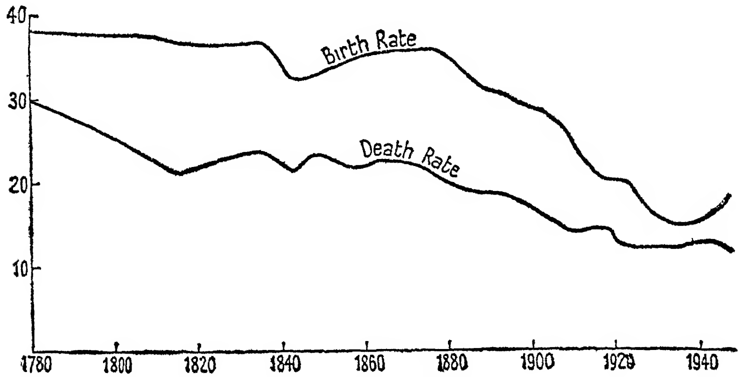


CHART I

The most significant difference which is made to our figures when we allow for migration is in the case of Italy. Emigration from Italy was particularly great during the period 1880–1910; the rate of growth of Italian population shown in the last two columns of our table is therefore less than the natural increase. If one had figures for the Italian population, *whether living in Italy or not*, it is probable that the rates of growth in the successive periods would be something like 2, 7, 8, 11, instead of the 2, 7, 6, 8 of our table. The Italian rate of natural increase has gone on rising far into the twentieth century; it is only in very recent years that signs have begun to appear that Italy also may be passing into the second phase.

Let us take the two phases in turn and inquire (1) why the rate of population increase accelerated, and (2) why it slowed up.

2. The natural increase of population takes place by an excess of births over deaths; consequently the rate of natural

increase (that is, the rate of growth in Table II adjusted for migration) equals the difference between the birth-rate (number of births per thousand of population per annum) and the death-rate (number of deaths per thousand per annum). A high rate of natural increase must be due to a wide gap between the birth-rate and the death-rate; but the gap may be wide because the birth-rate is exceptionally high or because the death-rate is exceptionally low. An increase rate of 10 per thousand (which is enough to cause quite a rapid expansion of population) may be due to a birth-rate of 35 and a death-rate of 25, or to a birth-rate of 25 and a death-rate of 15. It seems probable (though naturally one cannot say for certain) that the more or less stable-sized populations which seem to have been the general rule before 1750 were due to a combination of high birth-rate with high death-rate—both of them in the neighbourhood of 30 per thousand, with only a narrow gap between them. The principal development which upset this primitive equilibrium was a marked fall in the death-rate, due (beyond all doubt) to the improvements in sanitation and medical skill which were beginning to be effective in the north of Europe by the middle of the eighteenth century, though they failed to exercise any appreciable influence in the more backward countries for some time after 1800.

Birth-rates and death-rates for England and Wales are set out in Chart I. By 1780 (which is as far back as it is really safe to make estimates) the English death-rate was already falling quite steeply; there is good reason to suppose that the fall began some years before that. It continued until about 1820; after that it was checked for some time (this is where the bad sanitary conditions in the new industrial towns seem to come in), but it was resumed after 1870. As a result of the whole process the death-rate has been reduced from about 30 per thousand in 1780 to about 12 per thousand today.

The rise in the rate of population growth (our first phase) was thus mainly due to a fall in the death-rate; the slowing-up in the second phase is undoubtedly due to a fall (a much more sudden fall) in the birth-rate. As appears from the chart, the English birth-rate turned definitely downwards after 1880; in sixty years it fell from 35 per thousand to 15. The German birth-rate did

not leave the 35 level until after 1900, but it fell very precipitously when it did decline. During the nineteen-thirties it was usually a little below 20, and is now (1950) approximately the same as in England. The Italian birth-rate has been falling since 1922. The tendency to a falling birth-rate is very widespread in the world we now live in; it is one of the major economic facts of the twentieth century.

Several countries have shown a small recovery in the birth-rate during the nineteen-forties; what happened in the British case appears in the chart. Much has been made of this recovery, but its importance can easily be overestimated. Its main cause is quite certain. The average age at marriage has been getting lower, and this process is bound to boost the number of births, *while it is happening*. But it is of course impossible for the age of marriage to go on being lowered indefinitely; when the process is completed, the number of births must again fall, and the lower birth-rates of 1949 and 1950 (17 and 16) which do not show on the chart, seem to show that this is already happening. A real reversal in the situation could only come from a rise in the size of families; there are some indications that this may possibly be happening, but (so far) they are very slight indeed.

3. What are the causes of the great fall in the birth-rate? In spite of all the work which has been done on the subject, we do not altogether know. The explanation most commonly given is the practice of birth control, or contraception; but although the improvements in methods of birth control may explain how people *can* limit their families without undue difficulty, it does not explain why they should *want* to limit their families so very drastically. (Furthermore, it would appear that, in several of the continental countries where the same fall in the birth-rate has taken place, the method most frequently used is not contraception but abortion; abortion is a repulsive method, often dangerous to health, often illegal and always immoral, so that the desire for family limitation must be very strong indeed for people to adopt it.) What has to be explained is the motive, or motives, which have led to so general a recourse to family limitation; naturally that is not a thing which can easily be discovered.

It is possible, however, that some light may be thrown on the

matter if we look back at the period before 1870, when contraception is not likely to have been of much importance, and when, nevertheless, we do find considerable variations in birth-rates. As appears from our chart, the birth-rate in England was running at 35 or over during the whole period from 1780 to 1870 (except for an appreciable dip in the eighteen-forties). This is a distinctly high rate, but even higher rates have occurred in North America, some as high as 50 per thousand. In France, on the other hand, the birth-rate ran at not much over 25 during the greater part of the nineteenth century. These variations are quite sufficient to make a large difference to the rate of population expansion; how are they to be explained?

The explanation which is usually given for the relatively low birth-rate in nineteenth-century France is to connect it with the system of landholding. A settled peasant population, owning its own farms, has a strong incentive to restrict the size of the family. Openings outside agriculture are limited; younger children can only be provided for by dividing the family holding—that is to say, at the expense of the elder. Consider the contrast between this situation and that in the New World. American population could increase as rapidly as it did between 1800 and 1840 because parents needed to feel no responsibility for providing careers for their children; the career provided itself—'out West'. There was nothing to stop population from expanding at a fabulous pace.

Something of the same unlimited opportunity was provided in a more sordid way by the Industrial Revolution in England. Children became wage-earners at an early age; it cost parents very little trouble to ensure that their children had as good prospects in life as the parents had had themselves—though these prospects were often poor enough in all conscience. But as the standard of living (and in particular the standards of education) improved, the responsibilities of bringing up a family increased very markedly. The first dip in the English birth-rate is suspiciously contemporaneous with the early Factory Acts, which limited the employment of children in industry. The later, and more permanent, decline follows upon the introduction of compulsory education. We cannot prove a connexion, but it would not be surprising if the additional burden on the parents,

due to their having to support their children up to the age of 14, without getting much in exchange even in the way of help about the home, had a good deal to do with the decline in the birth-rate. Elementary education may be free in itself, but children cannot take advantage even of elementary education unless they are properly brought up by their parents; it costs money

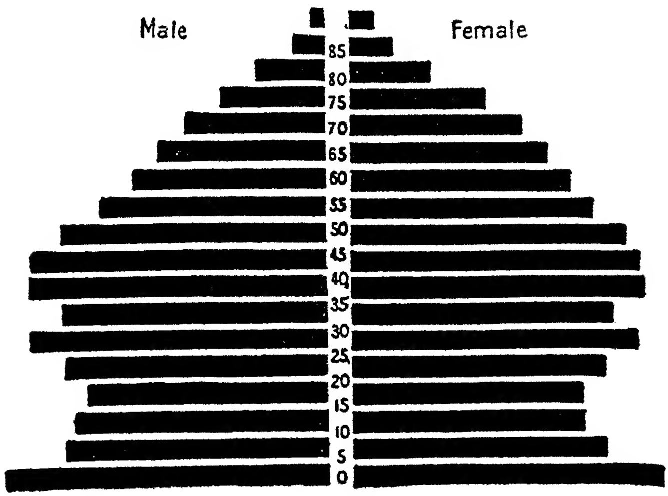


CHART II A

(with the improvement in standards, it costs more than it did) to bring them up properly.

The reasons for the fall in the birth-rate still have a good deal of mystery about them, but this is at least one possible explanation. It is not an ignoble explanation; it means that the quantity of the population has been endangered in the process of improving its quality. That is a kind of thing which is very liable to happen in human affairs, especially economic affairs; progress on one front is accompaned by retrogression on another. This does not mean that all real progress is ultimately impossible; the line can usually be straightened out later on. In this case the line will certainly have to be straightened out, for the fall in the birth-rate has reached a point where it has become a social problem of

the first magnitude. It is already possible to foresee some of the difficulties in which it is certain to involve us.

4. It is more possible to make reasonably accurate prognostications about the future in matters of population than it is in most human affairs. This is because of the simple fact that all those people who will be over 20 years of age in twenty years' time are alive now; thus (apart from immigration) we can set an

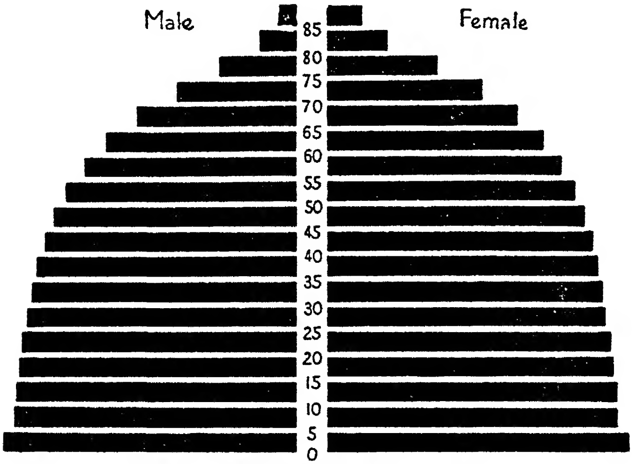


CHART II B

upper limit to the adult population of any country twenty years hence with complete confidence. On the basis of this known fact a good deal more about that future population can be guessed with some assurance. Thus we cannot tell how many babies will be born during the next twenty years; but we do know how many females, now living, are due to pass through the child-bearing age during the next twenty years—and that has a great deal to do with the number of births.

In order to estimate the future population of England, we do not merely continue the birth-rate and death-rate curves in the same directions as they proceeded up to 1940 (Chart I) and

observe that there is a danger of their intersecting if the flattening-out of the birth-rate bump goes too far. We can do a great deal better than that, for we have additional information in the age-distribution of the present population.

The population of any country at any date can be divided into age-groups, so many ten-year-olds, so many eleven-year-olds, and so on. In a completely stationary population with no migration, where the same number of births had taken place every year for the previous seventy years, these age-groups would form a descending series, with rather fewer persons in each age-group than in the one before it (because a certain number of people die at every age). A typical age-distribution for a stationary population of this sort is shown in Chart II B.

If now this population began to increase by extra births, the new generations coming into the junior age-groups would be larger than the older generations were when they came in; consequently the beehive would begin to swell at the bottom, the lower strips growing in size relatively to the others. As time went on, this swelling would travel upwards; but if the number of births went on increasing, the numbers in the lower age-groups would still be disproportionately high relatively to those in the higher age-groups. The slope of the beehive would be distinctly flattened as compared with the stationary case, so that the beehive would be more like a regular pyramid.

Chart II A shows the actual age-distribution of the English population in 1950. The upper age-groups show this 'flattening' effect quite clearly, for they still reflect the rapid increase of population during the nineteenth century. But the fall in the birth-rate has already reduced the numbers coming into several of the lower age-groups; though the lowest age-group is about as large as it would have to be in a stationary population of the same total size, we have seen reason to suspect that this represents little more than a flash in the pan. The English age-distribution is very far from being a beehive or pyramid; it has two bulges, one represented by people over 35 years of age, the other by the children under 10.

As time goes on, these bulges will move upwards. This will have two important consequences.

In the first place, the upper bulge will make for a rise in the

death-rate. The people who have been dying most rapidly (from natural causes) during the decade 1940–50 were people who were over 65 at that time—that is, roughly speaking, people born before 1880. The people who will be over 65 in the nineteen-sixties will be people who were born before 1900—and since the number of births was still rising until about 1900, there are likely to be more of these latter people. Whatever improvements are made in medical science, the death-rate is almost bound to rise when the bulge of the diagram passes into the Reaper's hands.

Secondly, and of more lasting importance, there is the effect on the birth-rate. The number of births in any decade depends upon the number of potential mothers then living, and on the average number of births from each potential mother. Consequently, even if the ordinary size of the family remains the same, the number of births will fall if the number of potential mothers is declining—as it is bound to decline for some time in the future, as a consequence of the low level of births between 1915 and 1940. The number of women in England and Wales aged between 20 and 40 was 6·7 millions in 1930 and 6 8 millions in 1940; in 1950 it is only 6·4 millions, and it will sink to under 6 millions by 1965. After that there should be some recovery, but hardly to the present level.

The age-distribution of the English population is obviously in a very unstable condition. Unless the recovery in the birth-rate during the last decade proves more durable than seems at present likely, mere efflux of time will lead to a fall in total numbers; for with the 'small family system' which has grown up in the present century, the population does not, in the long run, replace itself. It is obvious, when one thinks of it, that if there are only two children in the normal family (and this still seems to be the present position), the population must decline; for the two children only replace their parents, and there is no one to replace those who do not marry, or (for one reason or another) fail to have children. In order to prevent the population from falling, families of three or four children must be quite common—and that is hardly likely to happen unless families of five and six cease to be the extreme rarities they are today.

Whenever the community reverts to this larger type of family,

the population will cease falling—if not at once, at least after an interval. But if the total population is to settle at a level at all near to its present figure, the change in the size of family will have to take place fairly soon. The present total population could still be retained in the long run if the change began now, and was spread over the next twenty or thirty years. Perhaps it is beginning already, though the changes in the birth-rate which have already occurred are (as we have seen) not much to build on. Though we need not take so gloomy a view as was common in the nineteen-thirties, it still seems likely, on the evidence available at present, that the British population can hardly settle except at something lower than its present level.[1]

Would that be a bad thing? We will hold over that question to the next chapter.

[1] For further discussion of the matters examined in this chapter, reference should be made to the Report of the Royal Commission on Population (1949).

V

THE ECONOMICS OF POPULATION

1. THERE have been two episodes in the development of economic thought when economists have devoted a particular amount of their attention to the problem of population. One was at the beginning of the nineteenth century, when (as we have seen) the growth of population was proceeding at such an exceptionally rapid rate; the other has been quite recently, when the populations of most Western countries have finished, or nearly finished, their upward surge, and there is a serious possibility of future decline. It is not surprising that T. R. Malthus, with whose *Essay on Population* (1798) serious discussion of the population problem really begins, should have been profoundly troubled by the perils of population becoming too large, through a rise in numbers proceeding unchecked; nor that his successors at the present day should be more inclined to emphasize the opposite danger, of population becoming too small, or getting smaller. The change in emphasis is a natural result of the events described in the last chapter.

It is indeed generally accepted that there are dangers in each direction. Long before systematic economic thought began to develop, these dangers were noted: 'the one part through the small number of inhabitants becometh desolate, and the other being overcharged, oppressed with poverty.'[1] The dangers of under-population (too small a population for economic efficiency) and of over-population (too large a population) are both real dangers, though they arise from different causes. The studies which have been made in the subject, both in the time of Malthus and in our own day, have enabled us to appreciate these dangers much more precisely.

2. To begin with the case of under-population. It is easy to appreciate how it is possible for a country to be under-populated if one considers the case of a small colony, with few people and poor communications. Such a colony, obliged to satisfy its own

[1] Machiavelli, *History of Florence* (in Tudor Translations series, p. 70).

wants by its own labour, could hardly fail to be miserably poor; for the organization of its economic system would be inevitably rudimentary and unproductive. It would be hampered by fewness of numbers in two different ways. In the first place, there might be things which would badly need doing, but could not possibly be done by a small number of workers. Such things as the building of bridges over large rivers would be physically impossible; the building of a railway between two distant places might not be impossible physically, but would be impossible practically, because it would take so long that the makers could hardly hope to live to see the fruit of their labours. But a much more important disadvantage would be the limit imposed upon specialization. The high efficiency of modern industry comes about very largely as a result of specialization; workers are specialized to particular jobs, and as a result they acquire great dexterity at those jobs; their efficiency is further increased by their use of highly specialized equipment. Very little of this specialization would be possible in a small colony with a few thousand inhabitants. It would be useless for people to specialize themselves on the sort of operations needed to produce motor-cars on a large scale if the maximum number of motor-cars which could be sold in a year was a few dozen. With so limited a market for their products, the motor-car manufacturers would spend most of their time standing idle, with the result that they would actually use their time more productively if they spent it in tilling the soil. But for the same reason the methods of cultivation used would have to be of a primitive character; modern agriculture, with its use of machinery and fertilizers, is itself dependent upon large-scale industry; tractors and binders could not be produced if only a few could be sold in a year. The same would be the case for nearly every specialized occupation one could think of; a small isolated community could only produce in unspecialized and consequently primitive ways. In the technical language of economic theory, it would be unable to take advantage of the *economies of large-scale production.*

These disadvantages of under-population are in fact experienced even to-day by small communities in out-of-the-way places, though they are greatly moderated by the opportunity of trading with the outside world. Trading enables the small

community to specialize in suitable lines, even although it is unable to sell at home all it produces in these lines; for it can sell its surpluses abroad, receiving in exchange for them things which it would have been unable to produce at home, or (and this is even more important) larger quantities of things which it could have produced at home in smaller quantities if it had not sought for the advantages of employing its labour in specialized ways. Sometimes the disadvantages of a small population can be completely overcome by this means; but the cost of transporting goods to and from distant countries is sometimes too great for it to be possible to carry specialization through foreign trading very far. The costs of transporting goods from one area to another are often artificially increased by the protective policies of governments. For the sake of national security governments do not like their peoples to become too specialized; but specialization is a condition of maximum productivity, so that the division of the world into an increasing number of national states (whatever may or may not be its political advantages) turns out to be a considerable drag on economic progress.

3. The dangers of over-population spring from a different source. As we have seen, the greater part of production takes place by the combination of labour with capital equipment. If population increases, the factor of production labour becomes more plentiful; and this will usually enable the total amount of goods and services produced to be increased. But the increase in population also involves an increase in the wants which have to be satisfied; the extra workers have to be fed and clothed and housed, so that unless the increase in production is proportional to the increase in population, the average standard of living will fall. (That is to say, if population increases by 2 per cent., the people will be poorer *on the average*, unless total production increases by at least 2 per cent. at the same time. If production increases by less than 2 per cent., the *average productivity* of the workers is diminished by the increase in their numbers.)

It is probable that an increase in population will be attended by a fall in average productivity, if the increase in the factor of production labour is not accompanied by an increase in the factor of production capital. For if this happens, the same

amount of capital equipment will have to be shared out amongst a larger number of workers; each of them, therefore, will have on the average a smaller amount of equipment to work with. Sharing specialized equipment is of course a very awkward business; it is probable that in the first instance many of the extra workers could only be taken on as 'helpers'. At a later stage, when equipment wears out and comes to be replaced, it may be possible to replace it in forms which make better use of the extra labour. But so long as it is a matter of squeezing the extra workers into a productive system which is not really any better provided with equipment, the amount of goods produced is not likely to increase in the same proportion as the labour force has increased—excepting in cases when the larger supply of labour enables new economies of exceptional importance to be derived from specialization.

This is in principle the way in which the danger of over-population arises; as population increases, its average productivity may fall, because of the lack of a similar expansion in capital equipment. But over-population will arise only if capital equipment fails to expand sufficiently. Quite apart from the question of specialization, it is often possible to overcome the shortage of equipment by increasing the supply. If this can be done, the danger of over-population disappears.

There is, however, one particular sort of capital equipment which is not capable of being increased by human agency to any appreciable extent; it is agricultural land.[1] A community which runs short of land can sometimes overcome the shortage by seizing land from its neighbours; apart from military action of that sort, very little can be done to remedy a shortage of land, though up to a point the evil can be moderated by using the land more economically, or by making improvements in its quality. So long as a country's population remains small, relatively to the size of its territory, there is not likely to be any shortage of land; there may be land of good quality which remains uncultivated. The danger of over-population arises when the best land is

[1] It was for this reason that nineteenth-century economists used to reckon land as a third factor of production, alongside labour and capital, instead of regarding it as a particular kind of capital equipment, which is what we have decided to do.

already being intensively cultivated, so that extra food for extra mouths can only be secured by scratching at stony soils, or pushing the boundary of cultivation higher and higher up mountain-sides. The reality of such over-population (at least within certain localities) will be appreciated by anyone who has seen the congested districts of western Ireland, or watched the Italian peasant cultivating a little pocket of ground perched among cliffs in his congested area near Naples. India and China contain between them one-half of the human race; large parts of their peoples are living in abject poverty, because immense populations are concentrated in small areas, and have to feed themselves from those areas. Over-population through shortage of land is one of the great causes of the poverty there is in the world.

4. In the light of this terrible possibility, the over-population scare of the early nineteenth century becomes readily intelligible. The British population was increasing at an alarming rate, doubling itself in half a century; how (asked Malthus and his followers) would it be possible to feed so vast a population from the limited area of the island? At that time little assistance was got from imports; the shortage of land was a real nightmare. There seemed to be no way of avoiding a future in which all the luxuries and conveniences of life would have to be sacrificed to the dire necessity of getting bread; and when at last even bread might be lacking. If the rise in population continued, that was the fate which appeared to be in store sooner or later.

As we know, this fate has been avoided. The British population is now more than four times what it was in 1800, yet it is in less danger than it was at that time of suffering from want of food. But the fact that the fears of the Malthusians were not realized does not mean that they were idle. Malthus had discerned a real peril; England avoided it, but it was not avoided in another case closely parallel to England's—in the case of Ireland.

At the time when Malthus was writing, the Irish population was half the size of the English, and it was growing at much the same rate. But in the Irish case the growth of population began to be checked after 1820, and checked by shortage of food.

Ireland experienced a series of famines, which culminated in the great famine of 1846. To-day the Irish population is only about one-tenth of the size of the English.

How was it that England avoided the danger to which Ireland succumbed? If England had been obliged to support her population entirely from her own soil, there can be little doubt that England would have experienced a similar disaster before the nineteenth century was over. In fact, in the years before improvements in ocean transport made it easy to import foodstuffs on a great scale, food in England was very scarce; the Corn Law agitation was the sign of a real scarcity, the premonitory symptom of what might have grown into a much greater calamity. As it was, the cheapening of transport made it possible for the English people to draw upon the ample supplies of agricultural land in the New Worlds of America and Australia, and so to remedy their own shortage. But how was it possible for the English people to save themselves in this way, and not possible for the Irish to do so as well?

The reason is that imports have to be paid for. If the agricultural land available in England was becoming small relatively to the population, England possessed other natural resources, in the form of coal and other minerals, which were absent in Ireland, and she was continually adding to her man-made equipment, her factories and mines, her ships and her railways. All these resources enabled her to produce a plenty of goods which she could exchange against foodstuffs from overseas. Although she was short of agricultural land, her capital equipment as a whole was continually increasing. The things which she could produce with this equipment were most of them unsuitable for satisfying the basic need for food, but that difficulty could be removed by trading with other countries. Yet she would have been unable to remove it so easily if her general productive power had not been increasing at such a rapid pace.

5. When the matter is looked at in this way, it suggests a conclusion of very wide significance. As the problem appeared to the Malthusians, shortage of agricultural land was an insuperable obstacle; when once the population of any country had reached the point where shortage of land becomes acute, the

people would be bound to suffer from poverty, poverty which could only be remedied by the population becoming smaller.[1] Today, as a result of the improvements in transport which have taken place, the position of over-populated countries has become, potentially at least, much less desperate. Although the peoples of particular countries and particular regions do suffer from a shortage of agricultural land, the human race as a whole does not suffer in that way to the same extent. And so long as there is plenty of agricultural land in the world as a whole, the over-population of particular areas can usually be remedied by industrialization. It does indeed sometimes happen that large populations are concentrated in regions which are very unsuitable for industrialization, owing to poorness of natural resources (not agricultural only) or bad communications; but for the most part over-population can be remedied by an increase in the amount of capital equipment—in those kinds of equipment which can be increased by human effort. That is just what industrialization implies.

However, as we have seen in our description of the productive process,[2] the way by which capital equipment is increased is by the use of some part of the community's productive power during a period for the construction of new equipment (investment) Productive power can be used either for the production of consumption goods or of investment goods. Now when the average productivity of a community is low, it will have the greatest difficulty in producing enough consumption goods to satisfy the basic necessities of life; so it will have little productive power to spare for the production of investment goods. Countries which are in this position are involved in a vicious circle. A larger supply of capital equipment would enable them to escape from the toils of over-population, but they are too deeply caught in those toils to be able to produce that equipment for themselves. Thus they cannot escape without assistance from outside. What means there are of giving them that assistance we shall consider later.[3]

Once a country has become sufficiently wealthy to be able

[1] A favourite modern version of this Malthusian argument is discussed in Appendix, Note B.

[2] Chapter III, above.

[3] See below, pp. 142–6.

to increase its capital equipment at a rapid rate from its own resources, the danger of over-population will usually be remote. This is the position in which most 'advanced' countries have usually found themselves in the twentieth century. Once this stage has been reached, the balance of economic advantage may well be on the side of an increasing population. Quite apart from the economies of large-scale production, the increase in population affords a stimulus to investment; new houses have to be produced for the extra people to live in, new machines to make clothes and other conveniences for them, and so on. A considerable part of the labour force in such progressive countries will be specialized on the production of such investment goods; this means (paradoxically enough) that it is actually easier to maintain employment (prevent unemployment) when population is increasing. It is not impossible that slowing-up of population increase may have been one of the things responsible for the exceptional unemployment which occurred during the nineteen-thirties; this is particularly plausible in the case of the United States. The approaching decline in population is undoubtedly going to set an awkward problem of reorganization to the countries which are affected by it—not necessarily an insuperable problem, but a decidedly delicate one. Declining population may actually involve us in greater difficulties on the side of production than would arise from further increase.

Such narrowly economic considerations are of course not the only ones which have to be taken into account. Although, in the case of England, we are not seriously incommoded in peace-time by the limited amount of agricultural land available in our island, we are incommoded by pressure of population in other ways. Great Britain can only support her present population of 49 million people if at least half of those people will live in great cities, enjoying certain advantages (it is true) from being so close together, but in other ways being decidedly cramped. If the whole of our population were to attempt to live upon the standards now thought to be proper by our middle class—with gardens and golf-courses and motor-cars—would there be room for 49 million people on the island? Thoughts like these do sometimes enter the mind, but they are not what economists have meant in the past by the problem of population.

VI

THE SPECIALIZATION OF LABOUR

1. Population is only the first of the economic problems connected with labour as a factor of production. The contribution of labour to the productive process depends in the first place on the number of workers, secondly on the kinds of work they can do, and thirdly on the effort they put into their work. We shall consider the second of these questions in the present chapter, and the third in the chapter which follows it.

We must begin, however, with a further remark about numbers. The number of persons who work, or earn their living, in a particular country is always much less than the total population. Idleness (voluntary or involuntary) is responsible for no more than a small fraction of this difference; most of it is due to age and sex. Thus in 1949 the population of Great Britain (not including Northern Ireland) was divided by age and sex in the way which is set out in the following table:

Table III

Population of Great Britain (1949) (millions)

	Males	*Females*
Under 15	5·5	5·3
15–64	15·7	16·9
65 and over	2·5	3·0
	23·7	25·2

The total number of persons classified at the same date as belonging to the 'working population' (this includes those who happen to be unemployed at the moment when the count is taken) was 16·0 million males and 7·2 million females. Since none of those under 15 could legally be working, and a considerable proportion of those over 65 would not be, it is reasonable to compare these numbers with those in the middle age-groups. It will be seen that with the males the numbers nearly match; this means that the number in the 15–64 group who were not working (mostly because they were continuing their education) were rather more than balanced by the over-65's still working or

seeking work. But not much more than two-fifths of the females in the middle age-group were working; this is, however, a remarkably large proportion, for in a healthy community the majority of women have something else to do with their time than to spend it in earning their living.

Thus in 1949 the total number of the working population was about 23 millions. At no time during this year were more than about 1 per cent. of this number unemployed; few of these were out of work for any long period. Seen against the background of pre-war experience (in 1932, the worst year of the century in this respect, the unemployment rate rose to 15 per cent., while unemployment equal to between 5 and 10 per cent. of the working population was common), the problem of unemployment was in 1949 nearly non-existent. Politicians naturally endeavoured to take credit to themselves for the change, and political actions were no doubt responsible for some part of it. But there is equally no doubt that economic forces were pulling in the same direction. It was much easier to maintain full employment (or what passes for full employment) in 1949 than it would have been in 1932, or than it may be once again in the future. But this is a matter to which we shall be returning in other connexions.

2. To give a complete list of all the occupations pursued by different people in a country like Great Britain would require a volume considerably larger than the present.[1] But it may be useful if we indicate some broad groups.

Nearly seven-eighths of the working population come into one or other of the specific groups listed in Table IV; the remaining eighth, left unclassified as 'other occupations' at the end of the table, were divided among a number of smaller trades, of which chemicals, printing, and insurance were the largest.

The smallness of the numbers engaged in agriculture is striking. Only 5 per cent. of the working population of Britain work in agriculture; it is unlikely that there is any country in the world which has a smaller agricultural percentage than this.[2] Even highly industrialized countries like Belgium and Germany

[1] The most complete list is that given in the 'Occupations' volume of the census report.

[2] Cf. Colin Clark, *Conditions of Economic Progress*, 1951 edition, p. 398.

show percentages of working population engaged in agriculture which are round about 15 per cent. A self-contained community would be unable to exist with so small an agricultural population as the British. The British practice of importing foodstuffs and exporting manufactured goods in exchange is reflected both in the smallness of the agricultural population and in the size of certain other groups which are swollen by people working to produce exports. The metals group (as shown below) now accounts for one-half of British exports and the textile group for nearly a quarter.

TABLE IV

Occupations—Great Britain (1949) (millions)

	Males	*Females*
Agricultural	1 1	0 1
Coal-miners	0 8	..
Metal workers (including makers of vehicles, ships, and electrical equipment)	3 1	0·7
Textiles and clothing	0 7	1 1
Food, drink, and tobacco manufacture .	0 4	0·3
Building and contracting	1 5	..
Transport (rail, road, shipping) . .	1 6	0 2
Distributive trades	1 6	1 1
Personal services (including professions) .	1 3	2 2
Armed forces	0 7	..
Public administration (national and local)	1 0	0·4
Other occupations	2 0	1 0
Unemployed	0 2	0 1
	16·0	7 2

3. It is a matter of the first importance for the economic organization of a community that its working population should be divided among occupations in an efficient way. This means not only that there should be the right number of workers in each occupation, but also that the qualities of the workers in each occupation should be as appropriate as possible—that people having particular capabilities should be in the positions where they can make the best use of their powers. Now it is obvious that if each person worked in the occupation which he himself preferred to follow, just because he had a liking for that particular sort of work, this desirable distribution would not be reached; there would be far too many people in the more popular occupations, far too few in the unpopular ones. Some sorts of goods or

services would be produced in much larger amounts than were wanted, while the supplies of others (some of which might be necessities of life) would be grievously short. The distribution of labour among occupations cannot be left to be settled according to the preference of producers alone; the desires of consumers must also be taken into account. Since every producer is also a consumer, it is to everyone's interest that such an adjustment should be made.

There are two known methods of making the adjustment. One is the method of compulsion. The government may decide that more people are needed to work in a particular occupation; it may then pick upon certain people and compel them to transfer themselves where it wants them to go. Under the name of conscription, the method of compulsion is widely employed in war-time; it may be the only practicable method of bringing about the immense temporary redistribution of occupations which is necessary to deal with an emergency such as modern war. Nevertheless, for normal purposes, it is distinctly less efficient than the alternative method. This alternative is to give people an incentive to transfer themselves to those occupations where the supply of labour is short. The incentive may take various forms; certain kinds of labour are attracted into the British Civil Service by the prospect of honours (such as knighthoods), while in Soviet Russia the 'shock brigades' are said to have the best chance of theatre tickets or of being sent on holidays.[1] But the simplest form of incentive is to offer higher wages in those occupations where there is a scarcity of labour; people are encouraged to look for employment in those occupations where extra labour is wanted more urgently, in preference to occupations where extra labour is wanted less urgently, because they will be offered better wages in the former occupations.

Thus the use of the incentive method makes it almost inevitable that some people should get higher wages than others; but before we allow our sense of fairness to be outraged by these differences, we ought to consider very carefully what alternative exists. As we have seen, some means of regulating the distribution of labour among occupations is absolutely necessary; no community could survive without it. The only alternative is the

[1] Webb, *Soviet Communism*, p. 749.

method of compulsion. Now the method of compulsion is itself not beyond criticism on the score of fairness, and on other grounds it is distinctly inferior. Suppose that it is decided that 1,000 additional workers are wanted for some new trade, say the manufacture of radio sets; out of all the 20 millions or so, who are working (with more or less regularity) at other occupations, which thousand is it that ought to be transferred? The ideal solution would be to find those particular 1,000 people who will at once be the most useful in the new occupation and the least useful in their old occupations, and who can also be transferred from one occupation to the other at least trouble to themselves. These three tests (it should be observed that they are distinct and different tests) will not always be satisfied by the same people; yet clearly there will be some people who will satisfy the tests reasonably well, and some who will satisfy them very badly indeed. Clearly it is desirable that the people who are to be transferred should satisfy the tests reasonably well—but how are such people to be discovered? If the method of compulsion is used without any adequate system of selection, then although the numbers transferred may be right, the choice of the particular people to be transferred will often be unsatisfactory. People will be transferred who would have been more useful at their old occupation, and also people for whom the transference involves exceptional hardship.[1] A means of selection is needed which will reduce the danger of these sorts of waste.

4. The great advantage of the incentive method is that it contains a means of selection within itself. When our employer in the radio industry is looking for his 1,000 workers, he estimates first of all what wages will be necessary to attract 1,000 suitable people. The rates offered will of course have to be high enough to attract a good many more than 1,000 persons altogether; the suitable people will have to be picked out of a longer list. But this is the only part of the work of selection which has to be

[1] When the method of compulsion is used in war-time this sort of thing does of course happen; various more or less adequate devices have to be introduced in order to mitigate its consequences. Even so, these effects of compulsion are only tolerable because of the overmastering necessity of the tasks to which the labour is being transferred; they would be less tolerable in cases of less urgency.

performed by the radio manufacturer himself and by his managers; all they have to do is to select, out of the applicants who present themselves, those who seem best fitted to do the work which is to be done. Of course even this is not an easy job; but it is a job which people who are themselves specialized in the management of that particular kind of work will be specially competent to perform. They do not have to pay any attention to the other side of the selection; for the only people who will put in an application for work at a stated level of wages are people who consider that they will benefit themselves by getting employment on those conditions. There is thus no possibility of people being selected who would be involved in exceptional hardship by having to work at this job rather than at some other job which is open to them; such people will not apply. Nor is there much danger of people applying who are essential workers at other occupations; for if a worker who was really essential in his old job sought to change his occupation, his old employer would probably raise his wages, so as to make it worth his while to remain. It may indeed sometimes happen that a worker possesses some exceptional skill which makes both employers want him very badly; in that case he may be enticed away by the new employer offering even higher wages than the old employer would be prepared to offer. But if the new employer can only get this particular man by offering him exceptionally high wages, he has a strong inducement to do without him, if he can find any means of doing so; the method of incentive does give him an inducement to weigh up the urgency of his need against the need of the other employer, and not to take on a worker who is specially useful elsewhere unless he is also very specially useful in the new occupation.

The method of incentive has these advantages; if we consider how continually adjustments of this sort require to be made in a modern community, we shall appreciate how important these advantages are. Yet we must never forget that the use of the incentive method does involve inequality of incomes; it means that those people whose abilities are more urgently demanded will earn higher wages than those whose abilities are less urgently demanded. People who have no kind of ability which is at all scarce will earn relatively low wages; sometimes the wages they

would earn would be so low that the public conscience is revolted by the idea of allowing them to work on those terms—if, indeed, they could earn enough to keep body and soul together. For this and other reasons, modern communities rarely allow the incentive method of distributing labour to operate unchecked and without qualification; minimum wages are fixed in certain occupations, and unemployment pay is given to people who cannot secure work at these minimum wages. There is often a very good case for making such arrangements; but when they are made they set obstacles in the way of adjusting the supply of labour between occupations in accordance with those ideal standards we have been laying down. And departure from these standards does mean a loss in efficiency.

5. The differences in individual skill, which are mainly responsible for the differences in wages we have been discussing, come about in three ways—from differences in natural ability, in training, and in experience. A man can only be made into a first-class doctor or a first-class engineer if he has natural gifts for that sort of work, and if he has been properly trained; but even then he will only be able to use his gifts and his training to the best advantage when he has had experience in using them. Both training and experience take time to acquire, shorter and longer times in different occupations; in 'semi-skilled' jobs a worker can become proficient in a few months, while in professional and administrative work even those people who have the best natural endowments may not reach the height of their powers save after years of training and longer years of practice.

When a man's skill has been built up by years of training or experience, it is probable that he will be very much better at doing the work for which he has been trained, or which he has learned by practice, than he will be for doing any other sort of work; unless he is given a very strong inducement to the contrary, the work to which he is accustomed is the work he will prefer to do. At any particular time a large part of the working population is specialized in this way on particular jobs; for these people (so it might appear) the problem of distributing them into the right occupations hardly arises. But that is not altogether so, since the number of people who are specialized in a

particular occupation at a particular time may be greater or less than the number wanted. In England, during the nineteen-twenties, there were too many coal-miners; as a result of the invention of more economical methods of using coal (by converting it into electricity, and so on) less coal was needed than before, and consequently fewer miners were needed. But while the coal industry was contracting somewhat, other industries were expanding; as a result of the improvements in motor-car manufacture, for example, more workers were needed in the motor industry than at any previous time. Not much could be done towards the necessary adjustment by transferring workers directly from mining to motor manufacture (the sorts of skill which were needed were too different); but workers were drawn into the motor trade from neighbouring industries, workers who did possess kinds of skill more or less similar; these in their turn were replaced by others, and so, by a long process of shifting round, the supply of labour was fitted to the demand, the incentive to transference operating, in spite of specialization. Economic history is full of transformations such as this; they involve apparent wastage of what looks like valuable skill, but economic progress could hardly take place without them.

When the number of workers requiring to be transferred from one occupation to another is relatively small, the adjustment can usually be made in a smoother and simpler manner. The people who are working in any occupation at any time will include beginners, as well as experienced workers; if it is only necessary for the beginners to move, a smaller amount of acquired skill has to be sacrificed. A smaller incentive will often be sufficient to induce beginners to move, than will be needed if mature workers have to be uprooted. It is by influencing the decisions of beginners, and of new entrants to industry, that the most convenient way of adjusting the supply of trained labour to the demand for it is to be found.

When a boy is deciding what occupation to take up, he is bound to be influenced to a considerable extent by the sort of natural abilities he possesses (we most of us know very well that there are occupations we should never make a hand at, even in the most favourable circumstances); but in most cases he will also be influenced (or his parents will see that he is influenced)

by the 'prospects' offered by the possible occupations—which 'prospect' is not only a matter of the wage which is offered at the moment, but is also concerned with the assurance of better wages when the job has been fully learned, and with the assurance of regular employment. These things are more likely to be secured in a trade where the demand for labour is expanding than in one where it is contracting; consequently careful decisions made on this basis do have the effect of directing labour towards those occupations where extra workers are most wanted.

There is, however, one other thing which has to be taken into account. The occupations which offer the best 'prospects' are usually occupations which require a long training; it is not surprising that this should be so, since most of the highest degrees of skill can only be acquired by the combination of long training with natural ability, and the necessity of a long period of training is itself a reason why the supply of such kinds of labour should be scarce. As things were until a few years ago, the opportunity of undergoing the longer periods of education and training was only open to the children of wealthy parents—and this limitation made the supply of such trained labour even scarcer than it would have been otherwise. During the last twenty or thirty years a great deal has been done in England (by scholarships and other grants) to widen these opportunities. As a result, it has probably become less common for people to possess exceptional abilities, but to be prevented from making use of those abilities by lack of training. But it is still the case that the supply of persons with exceptional natural abilities is less than what is needed for the more skilled and responsible occupations; so that the gaps have to be made up by people whose skill is mainly derived from the training they have received, or from mere experience in holding positions which they have gained through the influence possessed by their friends or relatives, rather than because of any particular qualifications they possessed themselves. And it is still the case that the children of poorer parents are handicapped by their inability to content themselves with low earnings while they acquire experience; they will prefer an occupation which yields a moderate income quickly to one which starts lower, but may yield a much higher income later on. (It is this which pushes the children of

the very poor into blind-alley occupations; and the same thing closes professions like the bar to most of those whose parents come from the middle class) It is in those directions that the most serious inequalities of opportunity still exist in our society; but to achieve a greater equality in these respects will not be an easy matter.

6. The questions which we have been discussing in this chapter are obviously controversial; they are also difficult, and it is not pretended that they are by any means exhausted by what has been said here. A large part of that more advanced part of economics which is called the Theory of Value is taken up with the closer analysis of issues such as those we have been raising. But although we shall have to return to such issues now and again, a systematic study of the Theory of Value lies outside the scope of this book.

VII

THE EFFORT OF LABOUR

1. WE have now discussed the numbers of the working population and their skill; one further element in the contribution made by labour to the productive process remains to be dealt with—the effort which people put into their work. This is partly a question of the Hours of Labour, the proportion of their time which people spend in working; partly it is a question of effort in the narrower sense, of the energy and attention with which people work during their working hours. There are several economic questions which fall under each of these heads, questions which are particularly interesting from the standpoints of Industrial Relations and Labour Management. Only a few of them can be indicated very briefly here.

2. It is usually the case that people will produce more if they work harder, but this does not mean that they will necessarily produce more if they work longer hours. After a certain point the additional fatigue diminishes output. For any particular kind of work there will be a certain length of working day from which a greater output can be secured than from any other length. If the number of hours worked is less than this critical number, production will be cut down because the workers have less time to work in; if it is greater, production will also suffer, because the additional time is offset by the fatigue.

The possibility that the working day may be too long for efficiency of production was demonstrated in a fairly unmistakable manner at the time of the early Factory Acts; it is a lesson which continues to impress the modern student of economic history, as it impressed Karl Marx[1] The modern industrialist rarely makes any mistake about the matter, except under the pressure of a sudden emergency. It does occasionally happen in war-time that those who are responsible for the direction of industry are unable to resist the temptation of endeavouring to increase production by lengthening hours,

[1] Marx, *Capital*, vol. i, ch. 10.

even when there is in reality nothing more to be gained in that direction; but it is unlikely that mistakes of this sort are often made when pressure is less extreme.

The number of hours actually worked in normal conditions is usually appreciably less than the number which would give the maximum output. For this there is a very good reason. When the working day is at its most productive length the fatigue which is imposed upon the worker is already nearly sufficient to cause a reduction in his output; it must therefore be already very considerable. It is not surprising that from their own point of view most workers would prefer to work rather shorter hours than this, and that they are even prepared to make some sacrifice in wages in order to get such a reduction in hours.

There has in fact been a notable shortening of the working week in most industrial countries during the last hundred years. During the eighteen-forties and -fifties it was the Ten Hour Day which was the objective of labour pressure; by the time of the First World War it was the Eight Hour Day; by the nineteen-thirties, the Eight Hour Day having been widely secured, the objective had moved on to the Forty Hour Week. It seems highly probable that the main explanation of this long-continued tendency towards shorter hours is to be found in the general rise in the standard of living which has taken place, more or less rapidly, over the whole period. As wages rise, people become prepared to make some sacrifice in wages in order to get a little more time in which to enjoy the fruits of their labour. An increased supply of amenities, and even luxuries, can give little satisfaction if there is a shortage of time in which to enjoy them. Time and again, as the process of rising standards goes on, a further shortening of the working week has become a thing which is even more urgently desired than a further rise in wages.

It is clear, on the other hand, that the conditions in which most industrial workers have to work are such as to make long hours particularly tiresome and trying. Those fortunate people whose work admits of much variety are not likely to mind very much how long they work; the only disadvantage which they get from working long hours is physical weariness. But when a man's work is very uniform and monotonous, his desire to have less of it may be very strong. It is not impossible that as people

have become better educated, the irksomeness of factory labour has increased.

However this may be, there can be no doubt that the shortening of hours which has taken place during the last century (with some temporary set-backs during war emergencies) has been a great gain to labour; it is a gain which needs to be taken into account when measuring the economic progress achieved. The quantity of goods and services produced is not a sufficient measure of economic progress; if the same quantity of goods can be produced with a smaller expenditure of undesired effort, people will on the average be better off. Sometimes, even if there is a decline in the quantity of goods produced, the decline may be offset by a gain in leisure.

Instances of this sort do in fact occur. In 1919, at the end of the First World War, there was in most British industries a rather sudden reduction in the length of the working week, a reduction which generally proved to be lasting. (The typical change was from a working week of about 52 hours before 1914 to one of about 47 hours after 1919.) This reduction has to be taken into account when we are assessing the effect of the war upon the productivity of British industry. When we find, as we do find,[1] that the quantity of goods produced per head was in all probability just a shade lower in 1924 than it was in 1911, we must not conclude that productivity was really any lower at the later date. If there was any decline in the amount produced, it was certainly less than what might have been expected from the reduction in hours. Economic progress had taken place, in spite of the war; but during those particular years the gain from economic progress had been deliberately taken out in the form of increased leisure.

3. Much the same fundamental issues as arise in connexion with the length of the working day arise also in connexion with the effort and application of labour during working hours; but the form which they take in practice is somewhat different. Just as the worker, looking (quite properly) at the strain which is imposed upon him, will usually prefer to work for rather shorter hours than those which would best suit his employer from the

[1] Bowley and Stamp, *The National Income 1924*, pp. 56–58.

point of view of production, so he will often (though not always) prefer to work during his working time with less intensity than his employer might desire. There is a real conflict here, which inevitably causes trouble, though we can see (when we look at the matter fairly) that it is not in the least discreditable to either party; it is a conflict more difficult to deal with than the parallel question about hours. For it is possible to make an agreement about hours, and to stick to that agreement over long periods; but the effort which a man puts into his work is liable to vary, even from day to day, for all sorts of personal reasons, so that it is much more difficult to come to an agreement about it. The resulting situation can be dealt with, more or less satisfactorily, in one or other of the following ways.

The best way is to awaken the worker's interest in his work to such an extent that the conflict of interests is reduced to a minimum. We have seen that when a man is interested in his work, and feels a responsibility towards it, he is not likely to mind very much how long he works; similarly, he will not mind how much trouble he takes when he is working. A good employer may be very successful in awakening such a sense of responsibility, though usually he will only do so if he himself takes a good deal of trouble in watching over the welfare of his employees. Nevertheless, the success with which this policy is likely to be attended depends very much upon the character of the work which is to be done, even the best employer will rarely succeed in arousing much interest when the work to be done is dull and monotonous.

The next best solution—in the case of repetitive work it is usually the best solution open—is to establish a connexion between the intensity of work and the wages paid. This is called Payment by Results. The simplest form of payment by results is piece-work, according to which the worker is paid so much for each unit of the product which he turns out. The drawback to simple piece-work is that the amount of product turned out does not always measure the intensity of work very satisfactorily; quality may be important as well as quantity; a man's output may go up or down for reasons outside his own control; one man's output may be larger than another's, simply because of a difference in the equipment they are using. The

methods of payment by results which are adopted in practice have often to be adjusted so as to allow for these discrepancies; in the process of adjustment they may become very complicated indeed. Now complication is itself a disadvantage; complicated methods are liable to rouse the suspicions of workers, who feel that they may be cheated by them; while it is not unknown for both employers and workers to be cheated in these mazes, the system adopted having characteristics which damage the interests of both parties! The more complicated a system of payment by results has to become, the less satisfactory (in most cases) it is; but the simpler systems will not fit the technique of production in more than a certain number of occupations without causing unfairness.[1] There is thus a limit to the number of cases where the method of payment by results can be conveniently applied.

If neither of these two solutions is open—if the work to be done is in its nature uninteresting, and yet it is unsuited for payment by results—then there may be nothing for it but to pay the worker by time (at a fixed rate per hour or per day, irrespective of output), and to bridge over the conflict of interests by the supervision of foremen or other managers. Obviously this method is less satisfactory than either of the others; it is only too likely to degenerate into petty tyranny, and it depends too much upon the sanction of dismissal. But there remains a considerable range of occupations (in the field of unskilled labour, for example) where no better incentive has been devised. It is highly desirable that this range should be narrowed; the best way to narrow it is by making improvements in the other methods, so that their application can be extended. The science which has particularly concerned itself with these improvements is Industrial Psychology; but the problem needs to be approached from the standpoint of economics as well as of psychology, if the happiest results are to be attained.

[1] Another difficulty which besets the system of payment by results is the necessity of making an adjustment in rates of pay whenever the method of production, or the character of the product, changes. It may well take some negotiation to establish a rate which is accepted as being fair to both parties, in industries where technical changes occur frequently, there may be no time for such negotiations, and the feeling of unfairness which arises in consequence makes the system work badly.

PART III

THE FACTORS OF PRODUCTION—CAPITAL

VIII

CAPITAL GOODS AND THEIR VARIETIES

1. CAPITAL, as we saw when we were making our earlier study of the Productive Process, consists of all those goods, existing at a particular time, which can be used in any way so as to satisfy wants during the subsequent period. Some of these goods are consumers' goods, which can be used to satisfy consumers' wants directly; some of them are producers' goods, which co-operate with labour to produce further goods and services. When we are studying capital as a factor of production, it is mainly the producers' goods which interest us; in the present chapter and in that which follows it we shall concentrate most of our attention upon producers' capital.

So far we have divided producers' capital goods into two classes—durable-use goods and single-use goods. We shall now proceed to make a further subdivision. The purpose of this further classification is in part to improve our understanding of the nature of capital; but at the same time we shall find that it throws a good deal of light upon one of the most important of practical economic questions—on the causes of unemployment. Unemployment is of course itself a problem of labour; but the causes of unemployment have more to do with the factor of production capital than with the factor of production labour. Most of what can be said about the causes of unemployment within the framework of an introductory volume such as this will be found in the present chapter.

2. Durable-use producers' goods have generally been divided by economists into two classes, called (1) Land, (2) Fixed Capital. Land includes agricultural land and urban land (used for building sites and similar purposes); it also includes mines.

Fixed capital includes buildings, machines, tools, transport equipment, and so on.[1] The distinction between these two varieties of producers' goods received a great deal of attention from nineteenth-century economists, who used to mark their sense of its importance by classifying land as a separate factor of production, instead of treating it as a particular species of capital, which is the more modern practice followed here. All are agreed, however, that there is a distinction between land and fixed capital; what is the exact basis of the distinction?

Broadly speaking, we may say that land (in its economic sense) consists of all those durable-use goods which are given by nature;[2] fixed capital consists of those which are made by man. There are some kinds of durable-use equipment whose supply can be readily increased, if we so desire, by the production of new units; these are called fixed capital. There are other kinds which are inherited from the past, but their supply cannot be readily increased if we want more of them; these we call land.

It is not necessary to suppose that we could mark off, at all precisely, out of the whole equipment of a community existing at any particular time, just which items ought to be reckoned as land and which as fixed capital. Certainly if we attempted to do so by inquiring into the ultimate origin of each particular piece of equipment we should raise some awkward historical questions, and should often be hard put to it to say what was man-made and what not. The agricultural land of England is presumably, for the most part, a free gift of nature; yet how much does it not owe to the improvements which have been made in it by successive generations of farmers, to the hedging and ditching carried out in the eighteenth century, and even to the

[1] Thus fixed capital does not mean fixed in location. The term is rather a curious one, having been borrowed by economists from accounting practice. Accountants, who have to look at economic problems from the point of view of an individual firm, think of the firm's 'capital' as the sum of money which has been put at its disposal. (We shall see in the next chapter how this fits in with the economic conception.) If a part of this money is spent upon durable-use equipment, it becomes 'fixed' for a long period—in contrast with money spent in purchasing materials, which is released again as soon as the materials are sold, thus the materials get the name 'circulating capital'.

[2] It should be noticed that land includes some consumers' capital, as well as producers' capital. If land is used for gardens, or parks, or sites for dwelling-houses, it is a consumers' good.

clearing-away of the primitive forest by the ancient Mercians? The rich soil of Burgundy, on which the famous French wines are produced, is said by some of the best authorities to have been literally compounded out of the debris left by two thousand years of vine-growing.[1] But for purposes of economic discussion, it is doubtful whether such historical questions as these need to be raised at all. However the soil of England came into existence in the past, it is not possible to produce any more of it in the present; the most that can be done is to make improvements in its quality to a limited extent. Thus we may agree that in the economic sense it is land. The important thing about fixed capital, on the other hand, is that it is capable of being increased by human effort at the present time.

There is another distinction which is sometimes confused with that we have just been making; although it divides the whole class of durable-use producers' goods in a rather similar way, it is really not the same distinction at all. There are some durable-use goods which wear out as they are used; there are some which do not. Most of the goods which do not wear out are such as we have previously classified as land; most of those which do wear out are fixed capital. Yet the two distinctions do not exactly correspond, as can be seen at once from the case of mines. Mines are a gift of nature, yet they undoubtedly give out after they have been worked for a certain time.

Here again we must be careful not to push the distinction too far. In a phrase which has become more famous than its author would probably have desired, the great economist Ricardo described land, in its economic sense, as 'the original and indestructible powers of the soil'.[2] If land is a free gift of nature, its powers are presumably original; but there are many parts of the world where farmers have learned from bitter experience that the powers of agricultural land are by no means indestructible. If the fertility of land is to be maintained, it requires to be cultivated in a suitable way, and the finding of a way to 'put back into the soil what you have taken out of it'

[1] 'C'est en fin de compte, non les vertus du minéral, mais les rudes labeurs humains, les misères et les peines de multiples générations de vignerons, qui ont fait, de ces sols ingrats entre tous, des terres de choix, de nobles crus, des lieux élus.' (G. Roupnel, *Histoire de la campagne française*, p. 249.)

[2] *Principles of Political Economy and Taxation* (1817), ch 2.

may not be an easy matter. The word 'indestructible' was a bad one; it is, however, characteristic of agricultural land that it can usually be cultivated in such a way that it does not deteriorate. If it is properly looked after, the land will be just as good in fifty or a hundred years' time as it is now.

The opposite is clearly true with many sorts of fixed capital. However well they are looked after, they are unlikely to be usable for more than a certain length of time, besides, they are liable to accidents, which may cut them off when they are relatively new. The necessity for replacement can often be postponed by making repairs; but when repairs have to pass a certain point, it will often be simpler to replace the article altogether. In any case, repairs are often nothing else but replacements of individual parts.

It has become clear that the distinctions we have been trying to draw in the field of durable-use producers' goods are not easy to define very precisely. But they do enable us to distinguish an important class of durable-use producers' goods, which are such that a proportion of the existing supply must be expected to wear out every year, and which are also such that new units can be produced, as additions to the total supply, or as replacements for those which have worn out. Modern society is dependent upon the existence of such goods, but it is just this dependence which makes it so difficult to keep the economic system running smoothly. Let us see how that is.

3. The trades which are specialized upon the production of new fixed capital goods are called the constructional trades. Most of their workers are to be found in those groups which we labelled 'Building and contracting' and 'Metal workers' in the table on p. 59 above. It will be seen from that table that out of the 23 millions or so of the British working population, nearly $4\frac{1}{2}$ millions were specialized to these occupational groups. But this British figure is swollen (as we have seen) by the great importance of the metal trades in British exports. A rather lower proportion (say 10–15 per cent. of the total) would be characteristic of other industrial countries.

The constructional trades have the double task of constructing new fixed capital and of replacing old fixed capital when it

wears out. Let us take a numerical example in order to see how these two functions fit together. A certain community possesses, let us suppose, 1,000 ships; and let us say that a ship lasts, on the average, about twenty years. Then it would be possible, in completely steady conditions, to keep 1,000 ships constantly available by producing a steady output of 50 ships per year. Every year 50 ships would wear out, and every year there would be a new 50 ships coming forward to replace them. In twenty years the whole fleet would have been replaced—which is just the time it would take to wear out and to need replacing.

Now suppose that the community ceases to be contented with this constant number of 1,000 ships; in order to cope with the demands of an increasing population or of an expanding trade, the number of ships needed begins to expand at an even rate—say 3 per cent. per annum. In order to have 1,030 ships in the second year, the number of new ships produced must be raised from 50 to 80. If 80 ships were produced every year, the total number of ships available would go on increasing in a regular manner.

This is more like the situation as it has usually existed in the actual world; but it should be observed that steadiness in the output of the shipbuilding industry now depends upon the expansion of the total demand for ships proceeding at a steady rate. And steadiness in the *rate of expansion* is obviously very difficult to attain. Population itself has not expanded at all steadily, though it has (up to the present) gone on expanding; but there are other things to be taken into account which are even less reliable. Inventions and changes in wants cause sudden accelerations and retardations in the demand for particular sorts of fixed capital; political changes (particularly wars and their consequences) are even more disturbing. Even when economic progress is continuing without serious intermission, the rate of progress is liable to be speeded up or slowed down for all sorts of reasons.

Even when these changes in the rate of progress are themselves quite moderate, they will have a considerable effect upon the activity of the constructional trades. We have seen that with 80 ships produced every year, the numbers of ships available would go on increasing from 1,000 to 1,030 and 1,060, and so on. Now suppose that in the second year the number of

ships needed was a little larger than this; for the number of ships needed to be 1,050 instead of 1,030 would not imply any great disturbance in the demand for shipping. But if 1,050 ships were to be made available in that year, the number of ships produced would have to be 100 instead of 80. If in the third year no more than the normal 1,060 were needed, the number of ships produced in that year would only be 60 (10 as an addition to the total supply, and the usual 50 replacements). This means that if there were enough people specialized to shipbuilding to be able to produce 100 ships in the rush year, in the year after 40 per cent. of them would be unemployed.

Nor is this all. We have so far been assuming that the existing supply of ships can be relied upon to wear out at a regular rate. If anything were to happen (as for example a war) which caused them to wear out, or to be destroyed, more rapidly than usual, the demand for new ships would probably be further disturbed. There is also a more subtle reason why the rate of wearing-out may not be regular. If there have in the past been irregularities in the rate of production of ships, so that an abnormally large proportion of the existing ships were built in certain particular past years, the wearing-out of these ships is likely to be 'bunched'. (It is just the same problem as with the age-distribution of a human population; if the age-distribution of the existing ships is bunched, just as the present age-distribution of the British population is bunched, abnormally large numbers of ships will be ready for replacement in those particular years when the bunched ships are most rapidly wearing out.) We can now see a good many reasons why it is so difficult to maintain an even demand for the products of the constructional trades; the bearing of this on the present situation of Britain (and indeed of the world at large) is only too obvious.

During the war of 1939–45 a quite exceptional amount of fixed-capital equipment was smashed up; at the same time much of the ordinary replacement, which would have taken place during those years if they had been years of peace, was not carried out. The supply of fixed-capital goods, which was available at the time when the war ended, was therefore abnormally low; the world did not only require more ships, it also required more houses and other buildings, more vehicles, more machines,

more of almost all the regular products of the constructional trades, not merely in order to enable productive capacity to be increased in the normal way, but in order that the accustomed process of production should be carried through with normal efficiency. There was a veritable famine of capital goods. Now shortage of capital goods itself makes it harder to produce new capital goods, thus although the constructional trades have been working at full pressure ever since 1945, they have not yet (in 1951) succeeded in filling the gap. But they have come near to filling it in some respects. Though rearmament will postpone the day when the shortage will be overcome, it remains true that we have to expect a time when the demand for capital goods will revert to a more normal figure. When that time comes, it will be considerably harder to maintain 'full employment' of the constructional trades than it has been in the years since 1945.

4. There is no doubt, as a matter of experience, that when unemployment comes, the constructional trades suffer from it particularly badly. But the unemployment which arises out of the instability of the constructional trades does not affect the constructional trades only; it spreads to other industries as well. For when the constructional trades are slack, the people working in them have less to spend; and the result is a slackening in the demand for the products of other industries too. The unemployment disease is infectious; some trades get the infection first, others catch it from them; the trades from which the infection originates are usually (though not always) the constructional trades.

The mechanism by which the unemployment virus is passed on is a very simple one. The incomes which most people spend are the incomes which they earn by working; if fewer people are working, there are fewer incomes to be spent, and fewer goods can be sold. Since fewer goods can be sold, fewer people are needed to make those goods, so that fewer people can be employed in those industries. This mechanism is not the fundamental cause of unemployment; it is the way unemployment spreads from one trade to another.

The spreading of unemployment is not impeded by national frontiers. Most people spend some of their earnings upon

imported goods; when they have less to spend, they will buy smaller amounts of imported goods as well as of other goods, and that will affect the foreign producers of these goods, causing unemployment in the countries where the foreign producers live. Even if the goods which are bought appear to be produced at home, they will often include some materials imported from abroad; thus if home production is slowed up, fewer materials will be imported, and this again leads to unemployment among the foreign producers of those materials. If we look at the matter from the point of view of these foreign producers, we can see how it will often happen that the unemployment infection may come into a particular nation from outside, so far as that particular nation is concerned, it is not its constructional trades which are primarily hit, but its export trades. Something of that kind has frequently been our experience in Great Britain.[1]

Most of these difficulties would be overcome if a means could be found for scotching the trouble at its source by achieving greater regularity in the output of the constructional trades. There are various ways in which this could be done—by replacing equipment at times when trade is slack, instead of at the time when it is technically most convenient to replace it, and so on. It is in this direction, far more than in any other, that the economic systems of modern communities are in need of centralized 'planning'; but planning a steady output of fixed capital goods can never be an easy matter. (In practice, it is always bound to be complicated by political considerations; a great many of the constructional trades are capable of being turned over to armament manufacture, so that governments have an interest in them which is different from the economic

[1] At the time of the great unemployment in 1930–2 it was the experience of nearly all countries that their export trades were some of the worst sufferers. This was a direct result of the protective policies so generally introduced The government of each nation, finding that its people had less to spend, and that unemployment was therefore increasing among them, did all it could to induce them to economize on imports, rather than on goods produced at home, the result was to push the unemployment off on to foreigners, on to the exporting industries of foreign countries. With almost all countries behaving in this way, the exporting industries of all alike suffered. Now that so large a part of our export trade is itself a trade in constructional goods, we have become even more vulnerable than we were before. Fluctuations in the rate of construction *in other countries* will now hit British exports even more drastically and directly than in the past.

interest, and may clash with it.) These are some of the fundamental problems of the modern world.

5. Our classification of durable-use producers' goods has taken us far afield; let us now see where we shall be led by the single-use goods. The distinction we have to make among single-use goods is also concerned with problems of the regularity of output; but naturally it takes a different form. The single-use goods in the hands of producers at any particular time are partly goods actually undergoing production—'goods in process'—and goods being handed on from one stage of production to another. These we call *Working Capital*.[1] Partly they are stocks of materials which are not undergoing production at the moment, though they have been produced previously, and are expected to be used in further production later on; these we call *Stocks*, or Reserve Stocks.[2] We may think of working capital as symbolizing the regularity with which the greater part of the productive process does go on all the time, in spite of the ups and downs we have been discussing; but when we come to reserve stocks we encounter some new sorts of irregularity.

If the wants of consumers never changed, but remained the same from day to day and from year to year, and if the outputs of goods never changed, it would be unnecessary for businesses to keep reserve stocks to any important extent. But since a manufacturer is often ignorant of the exact form which the next order coming to him will take, and since he usually needs rather different materials (different qualities, for instance) for dealing with different sorts of orders, he will need to keep stocks on hand, so as to be able to deal quickly with the orders that come in. (Alternatively, the stocks may be kept, not by manufacturers themselves, but by merchants, who are ready to sell without delay to any manufacturer who needs a supply.) It is a very delicate problem of business management to decide what amount

[1] The older name was *Circulating Capital* (see above, p. 73, note).

[2] The word *Stock* is listed in the *Oxford Dictionary* as having fifty-eight distinct meanings; quite a number of these meanings are of economic importance. (We shall encounter another one in the next chapter.) The Americans are therefore very wise to use another word (Inventories) for Reserve Stocks; but Inventories has another meaning in England, so we get no advantage from following them.

of stocks need to be held for this purpose. If more stocks are held, orders can be fulfilled more quickly; it is a good thing for a firm's reputation to fulfil orders quickly, for by doing so it satisfies the consumer's wants better; but the holding of large stocks is very expensive. One of the easiest ways of economizing may be to let your stocks run down.

Let us suppose that in a certain industry manufacturers (or merchants) are in the habit of keeping stocks of materials equal to the amount which is normally used in production during a period of three months. They may keep this stock by them for long periods, or they may 'turn over their stock'—that is to say, every month they take one month's supply from their stock, and replace it by the same quantity newly supplied by the raw-material producers. So long as this continued there would be no dislocation. But now suppose that these manufacturers decided to content themselves with smaller stocks, and that from now on two months' supply would be sufficient. In the month when this happened, they would take the usual amount from their stocks, but they would not give the usual order to replace what they had taken. During that month the demand for the raw material would be interrupted, although after the interruption it would continue as usual.

This sort of dislocation is worth considering, because it shows us that changes in the demand for the products of raw-material producing industries do not necessarily correspond at all exactly with changes in the purchasing of the ultimate consumer. The stocks which are held by merchants and manufacturers form a kind of buffer between the raw-material producer and the consumer for whom he is ultimately working It is an elastic buffer, and it is liable to certain swellings and contractings of its own. But the most important economic consequences of stock-holding arise when there has already been some disturbance in the production of the raw materials.

There are many materials (for example, wheat and cotton) which are the result of agricultural operations, so that supplies inevitably come in at certain particular times of the year. Since they are needed continuously, and can be kept until they are wanted, merchants have built up a very delicate and ingenious organization to facilitate the holding of stocks on a large scale,

so that supplies which only come in at particular seasons can be used at an even rate throughout the year.[1] But it sometimes happens that this organization is subjected to exceptional strains. It can cope fairly well with the strain which is caused by a bumper crop, to which it reacts in the obviously desirable way of holding over the surplus, in the expectation that on some future occasion there will be a shortage. But suppose (as is not unknown) that two bumper crops come in succession, what then? As warehouses become overcrowded, the costs of holding even larger stocks mount very rapidly, so that a signal has to be given to the farmers to cut down production. The same thing happens (and this has been a frequent occurrence in the modern world) if the demand for the product has been increasing very rapidly, but farmers have overestimated the rate at which it is increasing, so that they have produced more than the consumer is at the moment prepared to take. In either case the warehouses become loaded with *surplus stocks*.

It will be well for us to reflect for a moment on the situation which then arises, for there are few economic problems which in recent years have caused more misunderstanding. Either as a result of the vagaries of nature, or as a result of miscalculation, producers have turned out more than they would have desired to produce, and more than they would be willing to produce as a long-term policy in later years. If the commodity produced is a perishable one, there may be nothing for it but to destroy the surplus; thus when there is an overproduction of fruit, the surplus has to be left on the trees, because the labour needed to convey it to market is not available. If the commodity could be stored very easily, it would be possible to hold over the surplus supply for a long period, releasing it very slowly in small quantities, so that little disturbance would be created as it was sold Between these two extremes is the common case when the commodity can be stored, but storage is expensive, stocks can then be held over, but anyone holding a stock will desire to dispose of it as soon as he conveniently can. In this case there will generally be a period of two or three years after the surplus first occurred, during which it is being disposed of;

[1] This organization consists of the Organized Produce Markets, whose market reports were referred to above, p 7.

and during those years the demand for new supplies will be less than normal, since the wants of consumers are being satisfied to a considerable extent out of the surplus stocks. Thus these years are bound to be years of unemployment or under-employment for the producers. It is not surprising that in some such cases (as in the famous case of Brazilian coffee after 1931) the producers should prefer to adopt the solution which would have to be adopted in the case of a perishable commodity—that is, to destroy the surplus! For by so doing they escape the awkward process of digesting surplus stocks, which would otherwise hang over them for some time.[1]

During the nineteen-forties the world has been confronted with the opposite problem—that of a persistent shortage of materials, with which producers have been unable to catch up. In such conditions the market organization does not greatly help; for once stocks have been run down to a minimum, they can no longer act as a buffer. Governments have endeavoured to meet this situation by themselves taking over the control of stocks; this does not in any way enable supplies to be increased, but it facilitates the introduction of allocation and rationing, by which the available supplies can be distributed among manufacturers and consumers in a more equitable, but not necessarily more efficient, manner. There is no reason to suppose that this machinery, necessary as it is in times of great scarcity, has any superiority over the market mechanism in more normal conditions. Governments will certainly continue to play a larger part in the control of commodities than they used to do in the old days, but the chances are that most of the war-time machinery will ultimately be dismantled. A general return to distribution through the market, with governments holding additional reserves ('stockpiles') against special emergencies, looks like being the next phase.

The problems which we have studied in this chapter are very difficult problems; there is much more to be said about them than we have been able to say here. But further discussion of

[1] On the question of Brazilian coffee see J. W. F. Rowe, *Markets and Men*, ch. 2. The case for the policy adopted by the Brazilian Government was much weakened when they continued the policy of destroying surpluses even in the years after the original overproduction crisis had passed.

them would soon lead us into very advanced economics. It is sufficient for the present if we have appreciated some of the difficulties which inevitably attend the organization of a productive process which uses elaborate equipment. It should be observed that most of these difficulties are inherent in the productive process itself; they do not depend on the private ownership of capital. Some of the consequences of private ownership will be considered in the next chapter.

IX

PRIVATE PROPERTY IN CAPITAL

1. If capital goods are to play their part in the ordinary running of the productive process, they need to be looked after; some one has to be responsible for seeing that the durable-use varieties are kept in good condition, and that all kinds are used to advantage. In a socialist system the duty of looking after the community's capital equipment would be exercised by public officials; in a system of private property is it supposed to be performed by the private people who own the capital. There are some kinds of society for which the case that can be made along these lines for the institution of private property is extremely convincing; for instance, the great strength of peasant proprietorship as a form of land tenure is to be found in the loving care which a peasant bestows upon land when it belongs to him. If capital is used to better advantage as a result of private ownership, and if the profits which are received by the owners are on the whole not more than a reasonable return for the care which they take of their property, then it may be more to the interest of the whole community (including those who are not owners of property) to have capital administered by owners rather than by public officials (who would also require to be paid). But it is only possible to make out a good case for private ownership along these lines if the owners of property do actually look after the capital goods which they own; in practice it has become less and less true that they do so. The case for private ownership is in consequence considerably weakened; or at the least it is obliged to shift its ground. We shall give an outline in this chapter of the remarkable way in which the nature of capital ownership has been transformed during the course of the last two hundred years.

2. The principal influence which has brought about this transformation is the growing advantage of producing on a large scale. New ways of producing on a large scale have continually been invented, and some of them have offered

great gains in efficiency; thus in many industries the size of the firm has had to keep on growing in order to take advantage of these more productive methods. In the middle of the eighteenth century a firm which employed a few dozen men was a large firm; by 1815 there were a few monster concerns whose employees were running into thousands. Although it was of course impossible for this rate of expansion to continue, we have today reached a point where firms with over a thousand employees are fairly numerous, while a few of the largest combines are well past the 10,000 mark. Since the amount of capital used has generally increased more rapidly than the number of employees, even these figures do not fully reflect the change which has taken place. A change of this magnitude was bound to affect the whole problem of the control of capital.[1]

So long as the typical firm was only a small workshop with a handful of employees, the capital goods needed for production could usually be acquired by a single person out of his own possessions, though some part of them (perhaps the building itself) might be hired from someone else. If the business was successful, and earned good profits, some part of these profits might be used for the acquisition of more capital goods, and so the size of the business would grow. But, except in very favourable conditions (such as did exist in the early days of the cotton industry, for example), the rate at which growth could proceed along these lines would be very moderate. The firm began small, and, even if successful, it usually stayed small.

In this primitive organization of business the manager and controller of the firm and the owner of the capital goods employed were one and the same person. (Our ancestors originally referred to him as the 'undertaker' of the business. Ninteeenth-century economists, fearing misunderstanding, preferred the French equivalent 'entrepreneur'.) But when the advantages of producing on a larger scale began to develop, the capital goods needed for starting one of these larger businesses became

[1] It should be noticed that such changes in the scale of production, however they occur, are always likely to have repercussions on ownership. Many examples can be found in the history of agriculture. The English enclosure movement of the late eighteenth century is one of them; the collectivization of agriculture in Russia (the Communist revolution began on a basis of peasant proprietorship) was almost certainly another.

too costly for a single person to be able to acquire them out of his own possessions—or rather, few of those people who possessed the right kind of ability were able to do so. A solution might, however, be found if a number of people clubbed together so as to provide the necessary capital equipment out of their joint resources. The legal form of this association was the Partnership.

Partnership is a system whereby a small number of persons hold capital equipment in joint ownership, and legally joint ownership is supposed to imply joint management. But it will often happen that some of the partners take a more active share in the administration of the capital than the others can do—the partnership is divided into active partners and 'sleeping partners'. Now the sleeping partner is putting himself very completely into the hands of his associates; he is allowing them to manage his capital for him, and on the success of their management depends, not merely whether he makes a good income or not, but whether he preserves his capital or loses it completely. To enter into a partnership when one does not intend to take an active part in its management is a very risky thing to do; it means imposing a very high degree of trust in one's associates.

3. It can readily be understood that there must always have existed owners of capital who would be reluctant to enter into partnerships; but there has always been an alternative method by which the property of such people can be made available for use in businesses which they do not control—the method of borrowing. When an entrepreneur acquires control over capital by borrowing it, his obligations to the lender are set down in the contract, which states that certain definite sums of money are to be paid at particular dates, and so on. The lender has no right to anything beyond what is laid down, but to that he has a firm legal right. It is not surprising that owners of property should often prefer to have a definite contract of this sort instead of the close association involved in a partnership.

Capital may be lent in the form of goods or in the form of money. In the case of land or buildings, it is possible to arrange for a particular capital good to be leased or hired, subject to a

precise undertaking that it is to be returned in satisfactory condition; but (at least in ordinary business dealings) it is not possible for single-use goods to be hired in this way, since they are going to be used up in the process of using them. There is therefore nothing for it but to express the loan in the form of a certain sum of money value, to be returned in money at an agreed date in the future; even in the case of durable-use goods it is often more convenient for the loan to take this form. Instead of the borrower being lent capital goods directly, he is lent a sum of money with which he can acquire the capital goods he needs.

The situation which arises as the result of a money loan such as this deserves very careful attention. If capital goods are owned by a partnership, then it is clear that the partners own those capital goods in joint ownership. If a landlord leases land or buildings to a tenant, then it is clear that the landlord still owns the property which has been leased; the tenant simply acquires the right to make use of the property. But if an entrepreneur borrows £1,000, and uses that £1,000 to make an addition to the capital goods under his control, these capital goods do not belong to the lender, nor to the lender and borrower in joint ownership; they belong to the borrower, and he has every right to dispose of them exactly as he wishes. But he does not personally become any richer as a result of this increase in the capital goods which he possesses (though of course he may become so in the end if he uses these additional resources advantageously); the increase in the capital at his disposal is offset by the debt of £1,000 which he owes. Similarly, if the lender has sold capital goods (say house property) in order to be able to lend the £1,000, he is not made poorer as a result of his having a smaller amount of capital goods in his possession; the £1,000 debt owing to him stands in the place of the capital goods he sold. When we are considering the personal 'capital' of particular people, we have to regard the debts owing to them as part of their 'capital', and the debts which they owe as deductions from their 'capital'. This is the reason for the distinction between *capital* in its economic sense (capital goods) and *capital* in its business sense (when it may mean nothing but pieces of paper acknowledging claims). The claims are indications that the control over capital goods

has been transferred in return for the promise of an agreed annual payment.

If we contrast the position of a lender (who, after he has made his loan, is better described as a creditor or a bondholder[1]) with that of a sleeping partner, we see that while the receipts of the sleeping partner are entirely dependent upon the way the business he participates in is managed, the bondholder is bound to receive exactly what he has been promised, so long as the borrower is able to pay at all. The only risk to which the bondholder is exposed is that the debtor will default on his obligation, and (at least so far as debts arising within a country are concerned) there is always legal machinery to ensure that debtors must pay if they can. But there is always the possibility that a debtor will not be able to pay (or not be able to pay fully), and a lender will therefore be more willing to lend if he has good reason for confidence in the *solvency* of the borrower. Since there are many cases in which the lender would himself be unable to acquire the requisite knowledge of the borrower's affairs, there is great scope for intermediaries between borrower and lender—intermediaries in whose own solvency the ordinary lender has confidence, and who can make the necessary inquiries before passing on the funds which have been entrused to them. The work of these intermediaries is called Finance; there are various kinds of financial firms, but the most important are the banks.[2]

One of the main considerations which a lender has to take into account when estimating whether it is safe to lend to a particular borrower is the amount of other capital which that borrower possesses. If a person who possessed no capital of his own tried to borrow £1,000, he would be unlikely to have much success in his endeavours; for even if the way in which he proposed to use the money appeared to be promising, the least mishap to his enterprise would leave him with capital goods worth less than £1,000, so that circumstances in which he would be unable to honour his obligation in full would be exceedingly likely to occur. Even if he possessed £1,000 of his own, the risk of losing

[1] The distinction between these being, broadly, that a creditor has lent money for a short period, a bondholder for a long period.

[2] The mutual relations of different kinds of financial intermediaries will occupy a good deal of the attention of a student of economics when he comes to the subject of Money.

half the capital invested in the enterprise might be quite considerable, so that a lender might still think that the security was not good enough. But if he already possessed a capital of £10,000, he would usually have little difficulty in borrowing an extra £1,000 for some promising purpose; for if capital goods to the value of £11,000 were used in a particular business, the chance of so much being lost that a debt of £1,000 could not be met would be relatively small. Whether it is a rule of economic affairs that 'to him that hath shall be given' may be disputed; but there can be no doubt that it is a rule of borrowing and lending that *to him that hath shall be lent.*

4. These two methods—Partnership and Borrowing—were the only legal methods of increasing the capital at the disposal of a single firm which were available in England (in ordinary cases) up to the middle of the last century. Even when they were both used to the utmost, there were limits to the amounts of capital which could be brought together in these ways. Partnerships did not work smoothly if they had more than half a dozen members or so; and the amount of money which could be borrowed by a partnership depended on the capital which the partners themselves were putting up. If (say) the partners themselves had contributed £10,000 and £10,000 had been borrowed, further borrowing might become very difficult, for the reason we have mentioned. The way in which these difficulties have finally been surmounted is by the formation of companies, instead of partnerships, as a more convenient way of organizing large businesses; but before the eighteen-fifties the only legal ways of forming a company were by Royal Charter, or by special legislation (as was done for the early railways), and these were expensive. So-called companies were also formed in a less regular way, but these were in law nothing but extended partnerships, so that their legal position remained anomalous and dangerous to their members.

The particular danger to which the members of these companies were exposed (the same danger beset all sleeping partners) was the danger of Unlimited Liability. The law declined to make an absolute distinction between the private property of a partner and the capital which he had contributed to the

partnership. If the partnership was unable to meet its obligations, the whole of the property of the partners could be drawn upon to satisfy the demands of creditors. Thus there was many a sleeping partner who experienced a rude awakening; the business in which he had been mildly 'interested' suddenly collapsed and engulfed his whole fortune.[1]

The great change in the English law on this matter was brought about by a series of Company Acts (culminating in the Act of 1862), which made it easy to form Joint Stock Companies with Limited Liability. A shareholder in such a company is ordinarily not liable for the debts of the company to any greater amount than the capital which he has contributed; thus if he has bought shares to the value of £100, he may lose that £100 if the company is a complete failure, but he cannot lose any more. The shareholder is therefore in a much less risky position than the sleeping partner (whose role he in a sense inherits). There is nothing to prevent the formation of companies with hundreds (or even thousands) of shareholders, so that the amounts of capital which can be brought together by the company form of organization are much larger than what could have been brought together by partnerships.

It was perhaps not unreasonable for the law to assume that the members of a partnership would all be actively engaged in the management of their joint capital; but it would be obviously absurd to pretend that a crowd of shareholders could take any active part in the management of a giant concern, in which many of them would have no more than a few shares. The legal theory of the joint stock company is that the shareholders elect representatives—the directors—who administer their capital for them. In order to protect the shareholders against directors who might abuse their position, the law insists on safeguards such as a certain degree of publicity in accounts, and imposes penalties for the raising of capital on false pretences (misstatements in prospectuses, and so on). The history of company legislation is a long story of guerrilla warfare between the law and a small

[1] The potentialities of such a catastrophe as a source of domestic drama were a godsend to novelists; but there was one novelist (Sir Walter Scott) who experienced them in his own person. He had used the profits of the Waverley novels to become a sleeping partner in a publishing house, which failed, leaving him personally in debt to the amount of £130,000.

fringe of ingenious rascals whose activities form the shady side of company promotion; there is no doubt that in England the law has had the better of the struggle. Provision has also been made in one of the later Company Acts (1908) for the institution of a hybrid between the partnership and the old joint stock company—the Private Company. Thus there are now three main legal forms taken by English businesses. (1) The partnership still exists with its unlimited liability, but its main stronghold is in the professions where little capital is used. (2) Small firms are largely organized as private companies, with limited liability, but not allowed to have more than fifty shareholders, and (since it is supposed that a small group of shareholders will usually have personal knowledge of the business) without the obligation to publish accounts. (3) When a business desires to have more shareholders than this, it has to become a Public Company, whose number of shareholders is unrestricted, but which is subject to regulations about publicity. (These regulations have been continually tightened up, as, for instance, by the Companies Act of 1948.) Most of the largest companies naturally take this form.

5. Thus the modern company has two ways of securing the capital goods which it needs in order to commence, or to expand, its operations: one by borrowing, and one by the issue of shares. The shareholders who have purchased the shares are in a certain sense part-owners of the company; they elect the directors, who are their representatives. But it is impossible for any legal provisions to give to shareholders the knowledge which they would need in order to elect competent directors;[1] so that in practice the directors of a new company are usually nominated before the shares are issued—before the shareholders have become shareholders—and they perpetuate themselves by co-opting others, whose selection is merely ratified by the dumb

[1] Just the same problem arises with political democracy. It is impossible for important officers, requiring specialized capacities, to be elected directly; for instance, a democracy which attempted to appoint its ambassadors to foreign states by direct election would soon be in a sorry plight. The method of electing general-purposes politicians whose business it is to make appointments, or to select those who are to make appointments, is not available in an association such as a company, itself formed for one specialized purpose.

herd. It therefore corresponds much more with the facts if we consider the directors of a company as themselves forming a kind of partnership, putting up some part of the capital themselves, and acquiring extra capital (often far in excess of what they have put up), partly by borrowing, partly by issuing shares. If we look at the matter in this way, we see that the issue of shares has itself developed into a kind of borrowing, distinguished from the other kind in just one significant way—that the bondholder has the right to a fixed annual payment (expressed as a fixed rate of *interest*), while the shareholder has no more than the right to a share in whatever *profits* are left over each year after other claims have been met.[1]

The shareholder has the protection of limited liability; but otherwise he puts himself into the hands of his directors, just as the sleeping partner put himself into the hands of his associates. He gives over his property to the directors and lets them manage it for him, so that it depends on their ability and their diligence whether or not he gets a good return, or whether indeed he loses it altogether. At first sight it seems astonishing that shareholders should be found who will have such confidence in the directors of public companies, people with whom they are most unlikely to have any close acquaintance. The explanation is partly to be found in another consequence of limited liability. Since the shareholder cannot lose more than he has put in, whatever happens to the company in which he has invested, he will be in a safer position if he has small holdings of shares in a number of different companies than if he has 'all his eggs in one basket'. This the sleeping partner could not do without adding to his risks, but it is the common practice of the modern capitalist.

Another way in which the shareholder in a public company is protected is by the facility with which he can dispose of his shares whenever he desires. Shares in private companies cannot be sold except to persons approved by the directors of the company; but shares in public companies can usually be bought and sold quite freely, without the company's officials being consulted

[1] Another thing which indicates that this is the right way of looking at the matter is the creation of various sorts of obligation intermediate between the bond (or debenture) and the *ordinary* share—preference shares and so on.

in any way. In order to facilitate such transactions, there has grown up a body of dealers, who are organized in the Stock Exchange.[1] The ability to sell his shares on the Stock Exchange does not indeed safeguard the shareholder against loss; if he gets bad news about the company, and so wants to dispose of his shares, the chances are that other people will have heard it as well, so that buyers will be hard to find, except at a reduced price. But the pessimist does get a chance of withdrawing his fingers before they get burnt too badly.

6. The final result of the transformation we have been describing in this chapter (a transformation, similar in outline, but with many tiresome differences in detail, has been going on in most other countries) is that the capital equipment of the community has, in the main, ceased to be owned directly by private people. The main exceptions to this rule (and they are only partial exceptions) are land and houses; it is a curious commentary on the attitude often taken by social reformers towards land ownership that the modern landlord still performs a real function in looking after the capital goods in his ownership, while most other property-owners hardly do so any longer. They have mostly given up their direct command over capital goods and have acquired titles to ownership, which are only pieces of paper, without any particular goods being identifiable to which they correspond. Since the shares owned by the modern shareholder are usually spread over a number of different companies, his connexion with any particular capital goods has practically disappeared.

This is indeed less true for company directors themselves, who are usually important shareholders in the companies they control, and it is to some extent less true for the shareholders in private companies. In these cases something of the original function of ownership remains. But if we ask what economic function is retained by the purely passive shareholder, it can be no more than the function of enabling the active directors

[1] So called because the dealers trade in stocks and shares. This is the other sense of *stock*, to which we alluded in the last chapter. The difference between stocks and shares is of no economic importance, except that stocks may include bonds. ('Stock' in *Joint Stock Company* is yet a third sense, the now obsolete sense whose place has been taken by the modern 'capital'.)

and controllers of business to get command over capital. Now it is a real advantage that they should be able to do this easily, because it enables new opportunities for the expansion of business to satisfy consumers' wants to be seized upon easily, and (above all) to be seized upon without delay. The facility of raising capital is actually increased by the looseness of the connexion between the particular capitalist and any particular set of capital goods. For, if a business desires to raise more capital, it is not obliged to appeal to those particular people who happen at the moment to have spare money available; it has much the wider choice of applying to anyone who possesses shares which can be sold on the Stock Exchange, and who would be willing to sell some of these shares and lend the proceeds to the business in question. This facility of raising capital is a real social gain, though the full possible advantage is not always taken of it. But perhaps it is not a large gain to set against the considerable part of the Social Product which has to be set aside for the payment of interest and dividends.

We shall be returning to this point when we come to consider the Distribution of Income;[1] it will suffice for the present if we have got some idea of the remarkable evolution which has been taking place in the institution of Private Property—an evolution which is probably not yet finished, and which may yet have some surprising turns in store.[2]

[1] See below, Chs. XIV and XVII.

[2] Developments which have occurred in connexion with the nationalization of certain industries between 1946 and 1950 will be described in the note on p. 106 below.

X

THE NATIONAL CAPITAL

1. WE have now examined the nature of capital under two aspects: (1) its aspect as a factor of production, consisting of real goods being used in the productive process; (2) its aspect as a superstructure of rights and titles to ownership, by means of which the real goods are attributed to their ultimate owners. The general way in which these two aspects are fitted together is becoming clear. The capital possessed by an individual capitalist will usually include some actual goods (houses, land, durable-use consumers' goods, and so on), but for the most part it is likely to consist of paper titles, shares, and bonds. These latter cannot be associated with particular pieces of real equipment, but are claims against the equipment used by firms; usually they entitle their holders to receive interest or dividends out of the profits which the firms earn by using that equipment Now since a company, from the point of view of ownership, is simply a means whereby a number of people can hold capital goods in common, the capital equipment of the company, after other obligations have been met, belongs to its shareholders. The conventional way of expressing this when drawing up a company's accounts is to reckon the shares as *Liabilities* of the company, and to bring out the company's liabilities as equal in value to its *assets*. (The assets of a company—like those of an individual person—consist of the property it possesses, plus the debts due to it; its liabilities are the debts which it owes, or the claims which are set against its assets.) This would work out in a concrete case in the following way.

Suppose that a company has been formed in the year 1935, and its capital was then got together by issuing ordinary shares to the value of £100,000 and by borrowing £30,000 on debentures or bonds. Let us suppose that we are considering its position at the beginning of the year 1938. At that time it also owes £10,000 to a bank, and £5,000 to various trade creditors (goods have been delivered to it, but not yet paid for). On the other side it is owed £5,000 by customers who have not yet

paid for the goods which have been delivered to them; and it possesses equipment, consisting of the various sorts of real goods, valued at £150,000. The resulting situation would be expressed on a balance-sheet more or less as follows:

Liabilities	£	*Assets*	
Capital issued.		Equipment (land, buildings, plant, goods in process, stock in trade)	150,000
Ordinary shares	100,000	Trade Debtors	5,000
Bonds	30,000		
Bank debt	10,000		
Trade Creditors	5,000		
Balance	10,000		
	155,000		155,000

The firm has been a moderately successful one, so that the total value of its assets exceeds the value of its debts *plus* the original value of its share capital. This leaves a balance of £10,000, which is put on the liabilities side, because any such surplus accrues to the ordinary shareholders, and is available to be distributed to them in dividends (though a prudent management will not begin to distribute any such surplus until it has grown fairly large). Nevertheless, we may say that the ordinary shareholders, who originally contributed £100,000, now have claims worth £110,000. (If the firm had been unsuccessful, the balance might have gone the other way, and the claims of the ordinary shareholders would be worth less than what they had originally contributed.)

When the balance-sheet of a company is understood in this way, it will be seen that it is quite proper for the two sides of the account to add up to the same figure; for if the claims of shareholders are treated as liabilities, the *net assets* of the company (assets *minus* liabilities) must of course be nil. In the case of a private individual, on the other hand, net assets are normally a positive amount. A private person may owe some money to his bank (having an overdraft), and he may have bills owing to shopkeepers which at a particular moment he had not yet paid, but these liabilities are nearly always a good deal less than his assets, for the very good reason that he would be unable to give adequate security for loans to any larger amount. We shall be

considering one exception to this rule a little later on;[1] but such exceptions are of little practical importance.

2. Let us now take a simple case, and see how the two aspects of capital fit together. Suppose that we have a company like that we have been considering, but with no trade debts either way, and no debt to a bank. Let us further suppose that its shareholders (including bondholders) have no investments in other companies Then we can take the company and its shareholders together, and can treat them as a self-contained group. The total capital of the group can be added up in two different ways, either of which will give the same result.

On the one hand, we can look at the capital from the side of ownership. The shareholders will have in their private possession certain capital goods (houses and so on) which have no connexion with their investments in the company. Let us say that the value of these personal possessions is £20,000. They also own shares and bonds to the value of £150,000. If we assume that they have no personal debts, their total net assets come to £170,000. The net assets of the company are, as we saw, nil. Therefore the net assets of the whole group are £170,000.

On the other hand, we may look at the real goods. The shares and bonds worth £150,000 correspond, in the company's books, to real equipment worth £150,000. Writing the company's balance-sheet in an abbreviated form, and subjoining a similar account for the shareholders' private possessions, we get the following table:

	Liabilities		*Assets*	
		£		£
Company	[a]Shares and bonds	150,000	Capital goods	150,000
Shareholders:	..	..	Capital goods	20,000
			[a]Shares and bonds	150,000
Company and shareholders together	..	..	Capital goods	170,000

When company and shareholders are taken together, the paper claims (marked *a*) cancel out, giving us as the sum of the possessions of the whole group, nothing but the real equipment,

[1] See below, pp 100–2.

which is worth £170,000, the same as the total value of the net assets.

The reason why the paper claims cancel out is that we have added together the capital of the company (for which the claims are liabilities) and the capital of the shareholders (for whom they are assets). If we were to take any group of individuals and institutions, and were to perform a similar addition, we should find that all debts and obligations *between members of the group* cancelled out in the same way, appearing as positive items in the accounts of some members and negative items in the accounts of others. If the group were a self-contained group, not having any debts or claims excepting between its members, the total capital of the group could be estimated, either by adding together the net assets of all members, or by adding up the values of all the real capital goods possessed. The two totals would have to come out to the same figure.

3. The particular group for which it is most interesting to make such a calculation is, of course, the Nation. When we add together all the assets and liabilities of all the persons and institutions which compose a nation, most of the paper claims (being owed by firms to persons, or persons to firms, or firms to firms, or persons to persons, all of which are included in the nation) cancel out in the way we have described. If the nation were completely self-contained, we should find that when we had made the cancelling-out properly, the sum of the net assets of all the persons and institutions in the country gave us the same total as the total value of all the capital goods possessed by the nation and its citizens. Very roughly, this is that we do find; but there are a few snags in the cancelling-out process which need a little attention.

First of all, a modern nation is not a completely self-contained group in the sense which would be needed for the cancelling-out to be perfect. Firms engaging in foreign trade will generally have debts owing to foreigners, and will be owed debts by foreigners; while some of the nation's citizens will be shareholders in foreign companies, and some of the companies operating within the country may have foreign shareholders. In consequence, if we were to add together the net assets of all

the members of a national group, we should find that the cancelling-out process was not complete. There would be loose ends in the form of paper claims owed to or by persons outside the nation. Since the accounts of these outsiders would not be added in to the national reckoning, the claims to which they were parties would only appear on one side of the national balance-sheet, instead of cancelling-out by appearing on both.

The Balance-sheet of a Nation would thus have to be written in the following form:

Liabilities	*Assets*
[a]Obligations due to fellow nationals	Real capital goods
Obligations due to outsiders	[a]Obligations due by fellow nationals
	Obligations due by outsiders

The National Capital of a country equals the sum of the net assets of all individuals and institutions within it. This is the difference between total assets and total liabilities. Since the obligations (*a*) to fellow nationals cancel out, the national capital (as appears from the above table) equals the total value of all capital goods possessed by members of the nation, *plus* the excess of obligations due from outsiders over obligations due to outsiders. Thus most of the national capital consists of real goods; but in the case of a creditor country (such as Great Britain used to be before the war) something has to be added on to the value of these real goods to allow for the investments which its citizens have made abroad; while in the case of a debtor country such as Britain has become since 1945, something has to be subtracted from the value of the capital goods owned by British subjects or by the British Government in order to allow for the balance of debts owed overseas.[1]

4. The other main snag in the cancelling-out process arises over the National Debt. In order to see how this fits into the calculation, let us begin by taking another rather similar case, of infinitely less importance, but easier to understand.[2] A young man, who expects to inherit some property on the death of an elderly relative, can sometimes succeed in borrowing money from a money-lender without any security but his

[1] We shall be returning to the subject of foreign investment in Ch. XII.
[2] This is the case to which we referred above, p. 98.

'expectations'. The practice is not a wise one, and it is probably much less common to-day than it was in the aristocratic society of earlier times. But how does it fit into our accounting? The loan, when it has been made and spent upon riotous living, is an asset to the money-lender and a liability to the gilded youth who borrowed it. It is not a liability to the elderly relative, from whose estate it is expected to be paid; he has not been consulted about it at all, and would be within his rights if he cut the spendthrift off 'with a shilling'. Thus there are no capital goods outstanding against the loan; we cannot regard it as a claim possessed by the money-lender against any of the real capital goods of the community. But, being a debt from one member of the nation to another, it has to be cancelled out when we are adding up the national capital. There is nothing for it but to regard the net assets of the spendthrift as a minus quantity, a state of affairs which is only possible because he has the expectation of getting an addition to his assets at some future date which will enable him to pay his debts.

Apart from a few special cases such as this, no individual or firm can have negative net assets. If a person's liabilities became greater than his assets, he would be adjudged bankrupt, and his assets would be divided up among his creditors, each of them receiving so many shillings in the pound as the assets would provide. Governments, however, can have negative net assets without going bankrupt, and can carry on in that situation for an indefinite period; the reason being that they have the power of raising taxes to cover the interest on their debts.

The national debts of governments have been mostly accumulated by past wars; however necessary these wars may have been, they are unlikely to have resulted in the acquisition of capital goods as industrial borrowing would do; there is nothing to show but the immaterial gains of freedom and independence. Whatever may be the case from a higher standpoint, the situation of the government, when the war is over, is from the standpoint of National Accounting just like that of the spendthrift. It owes a vast debt, and has no equivalent assets to set against it. Its net assets are negative.

When we are setting out the National Balance-sheet, the national debt has to be reckoned as a liability of the government.

If the people to whom the debt is owed are themselves citizens of the country, it will appear as an asset in their accounts; and so, when the accounts are added together, the national debt cancels out, like other internal debts. It is only when some part of the debt is due to foreigners that there is no cancelling out; external debt of this sort is a genuine deduction from national capital From all points of view, a large external debt is much more damaging to a nation than a large internal debt.

5. Now that we have discovered how the capital of a nation is made up, we should like to turn and see what the national balance-sheet looks like in a particular case. That is what we shall do in a moment, but before we can even approach such figures, it is necessary to utter a most solemn warning. The information which is available for the construction of a national balance-sheet is much less good than that which can be used for most other large-scale economic calculations. (It is much less good than that which we shall use for the calculation of the national income in Part IV below.) The proportion of guesswork in calculations of the national capital is abnormally high. This is partly because of defects in our information which could conceivably be remedied, direct information about many of the items is lacking, so that estimates have to be made by roundabout and imperfect methods. But the fundamental cause lies deeper, and can hardly be removed in the nature of the case.

The greater part of the national capital consists of durable-use goods, land and buildings, vehicles, and machines. What value is to be put upon these goods? It should be noticed, in the first place, that any one of these goods has, in ordinary practice, two sorts of values: (1) its *capital value*, the value at which it could be sold outright; (2) its *annual value*, the price which would be paid for the right to *use* it during a year, the article to be returned in good condition when the year is over. Since most of these durable-use goods are expected to last for much more than a year, their capital values will usually be much higher than their annual values. The selling price of a house, for instance (which is its capital value), will usually be from 10 to 15 times as high as the rent, which is its annual value.[1]

[1] The relation between the capital value of an article and its annual value

For the purpose of calculating the national capital, the values which are used are capital values, not annual values.[1] But to arrive at the capital value of a durable-use good is often not an easy matter. When a house is sold for £3,000, we can say without any hesitation that its capital value is £3,000; but many of the durable-use goods which are included in the national capital will not have been sold since long before the date to which the calculation refers, and their owners will not be proposing to sell them (if at all) until long after that date. What value is to be put upon such goods? There are several purposes (in connexion with the inheritance of property and with certain kinds of taxation) for which it is necessary to value these goods; skilled valuers are trained to do the job, but the methods which they use vary according to the purpose for which the valuation is wanted. The fixed capital used by a manufacturing firm may have half a dozen different values which can plausibly be put upon it. Different values may be put (1) by the directors and managers of the firm, (2) by their shareholders, (3) by another firm which might consider purchasing the whole equipment 'as a going concern', (4) by yet other firms who would only be willing to purchase the equipment bit by bit. In addition to these there are the values at which the same capital might be assessed for purposes of taxation, central and local, which are not necessarily the same as any of the preceding. In any estimates of the national capital these last values, made for taxation purposes, have to be drawn upon to a large extent, because they are the most readily available; but it should be noticed that they may have less economic significance than some of the others.

The same problem of valuation arises, to a lesser but still

does not depend entirely upon the number of years the article is expected to last. Even in the case of land, which is more or less expected to last for ever, the selling price is rarely more than 20 times the rent, which the owner can expect to receive. If it is more than 20 times the *current* rent (as does happen in times of inflation) that is a sign that the rent is expected to rise. The selling price of a promise by the British Government to pay the same sum in interest every year for ever is now (end of 1951) about 25 times the interest (or annual value); that is, the rate of interest (annual value — capital value) is about 4 per cent.

[1] The annual values of capital goods reckon into the national output, not the national capital. We have seen that the rents of houses (the price *paid* for the use of house-room) are part of the value of the social output.

significant extent, with some of the paper claims themselves. If, for instance, the government has borrowed £1,000 from a certain person, under promise to repay that £1,000 at some date in the future (say 1980) and to pay 3 per cent. interest per annum meanwhile; then this debt should stand, and does stand, in the books of the government, at its face value of £1,000, for that is the sum which the government will have to pay out in order to pay back the loan when the time comes. This is all right from the point of view of the government, but from the point of view of the bondholder it is not at all clear that the asset he possesses should be reckoned by him at its face value. The most important value for him to use in his reckoning would be that at which he could sell the bond now, if he chose to sell it to another investor, and this may be more or less than the face value, depending on the relation between the 3 per cent. offered and the interest which could be earned in alternative investments. (In fact, at the time of writing, a government bond, such as that described, could not be sold for as much as £800.) The same difficulty arises with company debentures. We must therefore expect that there will be many cases where the same obligation, which appears on the liabilities side of one balance-sheet and on the assets side of another, will be assessed at different values in the two accounts, so that it will fail to cancel out, as it ought to do, when the two accounts are taken together. Difficulties of this kind can be overcome to some extent, but they are bound to make the national balance-sheet a less informative document than we should like to make it.

6. In spite of all these troubles, it does seem worth while to try to put down a rough sketch of the national balance-sheet of Great Britain, as it would appear for some post-war date, say in the years 1947–9. This is shown in Table V. It is frankly a very home-made affair, the best thing which the author of this book could put together from very limited information. For this reason the figures are given in very round numbers. More is to be learned from the general layout of the table and from the relative importance of the various items than from the actual figures themselves. Even so, it will be

found quite helpful; a rough idea of the national balance-sheet is worth having, when the alternative is to have no idea at all.

For the purposes of this table, all the persons, businesses, and institutions in the country are divided into three groups or 'sectors'. The first sector, called 'Persons' shows property possessed by persons directly; it also includes property held on trust for persons, and property possessed by 'non-profit-making bodies', such as churches, colleges, &c. The second sector 'Companies' shows property possessed by joint stock companies, 'public' or 'private'. The third 'Government' shows property possessed by all organs of government, not the central government only, but local authorities as well. A division of this sort is very convenient for purposes such as those of this book; we shall meet it again in other connexions.

Some points about this division are worth noting. In the first place, the line between 'companies' and 'persons' is not a line between business and non-business property. Small businesses, such as farms and shops, which do not take the company form, come into the personal sector; the business has a single owner, or a small group of partners, who are taken as owning the business property directly. Debts owed by one 'person' in this sense to another 'person' in this sense are cancelled out by taking all 'persons' together, so that they do not appear in the table. The only debts of the personal sector which do appear on the liabilities side are those owed to companies (chiefly building societies and banks);[1] the only debts which appear on the assets side of the personal sector are those owed to 'persons' by companies or by government.

The debts, owed by companies to persons, include (as we should expect) the shares and bonds possessed by persons; they also include, perhaps more surprisingly, the money possessed by persons in the form of cash or of deposits in banks. So far as bank deposits are concerned, the necessity of putting them in this place appears at once upon reflection. Banks reckon as companies; the money I have 'in the bank' is nothing else but a debt from the bank to me; it is my asset

[1] There will of course be some debts owing to 'Government' (unpaid taxes and the like), but the amount of these may be taken as negligible.

and the bank's liability. Money which a company (a manufacturing company, for instance) has in the bank reckons as a debt from the bank to that company; it therefore cancels out when all companies (including banks) are taken together, and does not appear in the table. The same thing happens with loans from banks to other companies. Money which the banks have lent to the government appears as a debt from 'Government' to 'Companies'; much the greater part of the debt which appears in the table under this heading is a debt to the banking system. Thus in spite of the cancelling-out of inter-company debts, we do get an idea from the table of the extent to which the national debt is tied up, in practice, with the money supply of the country. This is a relation which has very important practical implications.

What, however, about the other part of the money supply—notes and coin? So far as the notes are concerned, they also are debts of the same kind, due to the holder from the Bank of England. A pound note is simply a statement of debt from the Bank of England to the holder of the note (If the reader doubts this, he can just look at a pound note and see!) If we reckon the Bank of England as a 'company' like other banks,[1] and this is

[1] Now that the Bank of England is nationalized, the question of where to put the Bank of England in our table is tied up with the wider question of where to put the nationalized industries When the government nationalizes an industry, it may proceed in one or other of two ways. One way is for the government to borrow money with which to buy out the shareholders; this is what was done with the telephones at the beginning of this century and again in the case of the coal-mines in 1946. In this case there is no doubt that the real assets (telephones or coal-mines) are transferred from the 'Companies' to the 'Government' sector. The companies are wound up, their liabilities depart along with their assets. The government borrows in order to compensate the shareholders. Thus the national debt is increased, but the increased debt is not 'deadweight' debt; the government has increased assets to set against its increased liabilities. The ex-shareholders get government debt in place of their shares

If the nationalization takes the other form (as it did with transport, including airways, with gas and electricity, and with steel), there is a still smaller change in the structure of the national capital What is done in this case is that the government sets up a 'Public Corporation', which retains much of the appearance of a joint-stock company, excepting that it has no shares, nothing but fixed-interest bonds. For the reasons which were explained in the last chapter, no ordinary company could borrow the whole of its capital in this way; the danger of its being unable to meet these fixed charges would be too great. But it is expected that a public corporation, should it get into difficulties, will be able to borrow from the government to

the most convenient thing to do for these purposes, then the notes reckon just like bank deposits, and have to be treated in the same way. Silver and copper coins are a shade more complicated, but since the metal contained in these coins is worth much less than the face value of the coins, it is best to regard them also as a kind of notes, printed on metal instead of paper in order to wear better. The value of these coins is a relatively small matter. The important thing (one of the most important things which emerges from the national balance-sheet) is that the money which circulates in the country is simply a part of the system of debts from one part of the national economy to another.

The whole of the internal monetary circulation has to be regarded in this manner; but there is another part of the nation's supply of money, which does not circulate within the country. This is the reserve of international money, mainly kept in the form of gold. The gold reserve used to be kept in the Bank of England, but (since 1939) it has been kept directly in the hands of the government. Accordingly it reckons among the assets of the government sector, where it will be found in the table. The functions of this reserve will be considered in Chapter XII.

7. In the light of these explanations, we can proceed to add up the national balance-sheet in the two ways which were indicated at the beginning of this chapter. We look first at the three sectors separately. The total assets of the 'Personal' sector seem to come out to about £42,000 millions; against this are liabilities of about £1,500 millions, so that the net assets of the personal sector can be put at £40,500 millions. The assets of the 'Companies' sector come to about £20,000 millions; the liabilities are by rule equal to this, so that net assets are nil. The liabilities of the 'Government' sector are the amount of the

cover its losses. How this will work out in practice, in the long run, it is early to say. For the time being, however, we can regard the fixed-interest bonds of the public corporations, which are given to the ex-shareholders in exchange for their shares, as being similar to the debentures of other companies. It is therefore open to us to keep the public corporations in the 'Companies' sector, and this is what we shall do. To assume that their assets and liabilities are equal in value is a convention, but it is a convention which it is useful to retain. The Bank of England is one of these public corporations; as such, it goes into the 'Companies' sector.

national debt (less holdings of national debt by public bodies), put at £22,000 millions; the corresponding assets comprise the £500 millions of gold and dollar reserve, plus a miscellaneous collection of real equipment, ranging from armaments and roads to coal-mines and council houses, upon which it is impossible to set a value that has much meaning. All that we can say is that the value of these things must be substantial, but that no possible method of valuation could bring them out anywhere near equal to the national debt that stands on the other side. The figure of £4,000 million which has been set upon them is thus no more than a token figure, designed to give something like the right impression. If we accept this figure, the net *liabilities* of the 'Government' sector come out to £17,500 millions.

Thus, taking the three sectors together, the value of the national capital (or net assets of the whole nation) would come to the difference between £40,500 millions and £17,500 millions, or £23,000 millions. But the significance of this last figure comes out more clearly if we read the table the other way.

All the items marked *a*, *b*, *c* in the table represent debts from one sector of the economy to another, and can therefore be cancelled out when the three sectors are taken together. The national debt (marked *d*) appears as a liability of 'Government' and as assets for the other two sectors; but the national debt held by the other two sectors only amounts to about £17,000 millions, as against the £22,000 millions owed by 'Government' to bodies outside itself. The missing £5,000 million was in fact owed abroad. Thus if we cancel out the debts from one part of the British economy to another, we are left with the items which appear at the end of the table in the 'Combined Balance-sheet'. The real assets (or real equipment) in the possession of the three sectors are given a total value of £25,500 millions—rather *more* than the £23,000 millions of the net assets of the whole economy. This is because Britain, since emerging from the war in 1945, has been a debtor country. Her foreign investments may have been worth rather more than the £2,000 millions of value we have given them—shares in companies operating overseas are as hard to value as many of the other items which occur in the table; but it remains certain that no value can be put upon them which would make them

Table V

Estimated Balance-Sheet of the National Capital of Great Britain (1947–9) (£ thousand million)

Liabilities		*Assets*		*Net Assets*
Persons: [a]Due to building societies, &c.	1·5	Houses and other buildings	6·5	
		Other durable-use consumer goods	1·5	
		Land	1	
		Equipment of small businesses	2	
		[d]Government debt	10	
		[b]Shares, &c., of companies	15	
		Foreign investments	1	
		[c]Cash and bank deposits	5	
Total (persons)	1·5		42	40·5
Companies [b]Shares, &c., due to persons	15	Real equipment	10·5	
[c]Bank deposits, &c., due to persons	5	[a]Mortgages on houses, &c.	1·5	
		[d]Government debt	7	
		Foreign investments	1	
Total (companies)	20		20	0
Government: [d]National Debt	22	Real assets	4	
		Gold and dollar reserve	0·5	
Total (Government)	22		4·5	−17·5
Total National Capital				23

Combined Balance-sheet

		Real assets:		
		Persons	11	
		Companies	10·5	
		Government	4	
		Total	25·5	
Foreign liabilities:		Foreign assets:		
National Debt held abroad	5	Foreign investments	2	
		Gold and dollar reserve	0·5	
		Total	2·5	
Total	5		28	23

(even together with the gold and dollar reserve) worth anything like as much as the value of the overseas debt.[1] The fact that Britain is now a debtor country, with net assets worth less than the value of the real goods comprised in the national capital, is fundamental for an understanding of her post-war problems.[2]

[1] The amount of the overseas debt is fairly certain, it includes £1,500 million borrowed from the United States and from Canada in 1945 and 1946, together with some £3,500 million of 'sterling balances'. The sterling value of the dollar debt was increased by the 1949 devaluation.

[2] For further discussion of problems involved in the calculation of the national capital, see Appendix, Note D.

PART IV

THE SOCIAL PRODUCT

XI

THE SOCIAL PRODUCT AND THE SOCIAL INCOME

1. THE general picture of the productive process during any period, which we worked out in Part I of this book, and have needed to keep at the back of our minds throughout our later discussions, can be briefly described as Labour working on Capital to produce Output. In Parts II and III we have discussed the Factors of Production—Labour and Capital; now we come to the study of Output—the Social Product. We shall devote a good deal of our attention to the problem of measuring the social (or national) product, mainly in order that we should have a clear idea of what it consists, and what are its component parts. When we have done this, we shall be in a position to say something about changes in the social product, how they are caused, and how people's economic welfare is affected by them.

There are many similarities between the problem of measuring output and the problem of measuring capital, we shall meet again over our new problem some of the same difficulties as we have met already. But it is very important that we should keep the two problems clearly distinct. Both the output of a community and its capital consist, for the most part, of a collection of goods (though output contains services as well, while capital does not). But the goods which are included in the one collection are not the same as the goods included in the other. The goods included in capital are those which exist at a particular moment of time; the goods included in output are those produced during a period of time. Some of the goods contained in output are durable goods, which will also reckon as parts of the community's capital at any time when they are simultaneously in existence. A house finished in April and a house finished in

June are both in existence in July, and will reckon as parts of the community's capital in July. But a loaf of bread baked in April has been eaten before a loaf baked in June comes into existence; both loaves are part of the year's output, but there is no date at which they are both of them parts of capital.

Thus the social product consists of a different collection of commodities from that which makes up the social capital; but they are both of them collections of commodities including many different sorts. Because of the different sorts of commodities included in capital, the only feasible way of reducing them to a common basis, so as to get a single figure for the national capital, was to take their values in terms of money (this quite apart from the question of foreign debts). We gave our figure for the national capital as so many pounds sterling, and just the same has to be done for the national product. We must always think of the social output as consisting of goods and services, things useful for satisfying wants; but when it comes to measurement, the only way of adding together an output consisting of so much bread, so many bicycles, so many ships, so many hours' teaching and so on, is to take the value in terms of money. There are serious defects in the money measure, so that it has to be used very carefully. But we shall find it convenient to begin by taking the money measure for granted, leaving its defects, and how far they can be remedied, for later discussion.[1]

2. The methods of computing the social product which are commonly employed depend on a very important economic principle, which is concerned with the close relationship between the value of the net social product and the total of the incomes of members of the community. When this principle is applied, as we usually want to apply it, to calculating the national product of a nation, there are a couple of snags which complicate the argument; after our study of the national capital, the reader will not be surprised to learn that these snags are due (1) to economic dealings with persons outside the nation, (2) to the economic activities of the government. We shall deal with these snags in due time,[2] but for the present it will simplify

[1] See below, Ch. XV.

[2] See below, Chs. XII and XIII.

things if we leave them out of account. In the rest of this chapter we shall make the unreal assumptions that there are no economic relations with persons or bodies outside our community, and that the economic activities of the State can be neglected. When these assumptions are made, the argument is easier to follow; there is not much harm in making simplifications of this sort if we propose to fill in the gaps later on.

Subject to these assumptions, the principle we have to establish is very simple. It states that the value of the net social product of the community and the sum of the incomes of its members are exactly equal. The net social product and the social income are one and the same thing.

It will be convenient to begin with a special case in which this principle is directly obvious. Let us suppose that the whole of the productive system of our community is organized in a single giant Firm, which controls all the capital equipment, and employs all the labour. This is very much the situation which would exist in a perfectly socialist community; the whole economic system of such a community would consist of a single firm, in which the State would own all the shares. We need not here suppose that the State owns the shares, as we do not want to bring the State in the picture just yet; we will suppose that the shares belong to a body of private shareholders, who may thus be regarded as the indirect owners of the capital équipment.

The net social product and the net product of our Firm are then one and the same thing. It consists, as we know, of the total amount of consumption goods and services produced, *plus* net investment, which is the increase in capital equipment brought about by the year's production. The wages of labour have to be paid out of the value of this output; but all the rest is profit, belonging to the shareholders.[1] The wages of labour are the incomes of the labourers; the profit left over is the income of the shareholders. The value of the net social product is thus equal to wages *plus* profits; and wages *plus* profits equals the sum of incomes. The net social product equals the social income.

The same equality can be tested out along another route, by

[1] Since our firm controls the whole of production, there can be no purchasing of materials from other firms

considering the way in which the incomes are spent. People will spend part of their incomes on buying consumption goods and services (buying them, of course, from the Firm, so that a part of its output is accounted for in this way), the rest they will save. Now when we say that a person saves a part of his income, we do not mean that this part of his income is not spent; saving is the opposite of consumption, not the opposite of spending. When a person saves, he uses a part of his income to make an addition to his assets; he is still saving, whatever form the additional assets take. Thus one possible way for a person to save would be by purchasing new equipment directly, and adding it to the assets in his possession at the end of the year. If we supposed that all the savings took this form, then it would be easy to see that the social income would purchase the social product. The part of the social product which consisted of consumption goods and services would be bought out of consumption expenditure; the part which consisted of the net investment would be purchased out of savings. Income as a whole would purchase output as a whole; we should have social income equalling net social product along this route too.

Further, it is obvious that the equality would not be disturbed if we were to suppose that the savers, after acquiring the new equipment in this way, did not retain it in their possession, but lent it back to the Firm. The social income would still have purchased the social product; but the Firm would retain control of the new equipment, issuing shares in exchange for it. The additional assets of the savers would now take the form of shares; the shares would be a liability to the Firm, but the Firm's assets and liabilities would still be equal, as they should be, because the Firm would have the new equipment, equal in value to the shares, added on to its assets. The Firm's balance-sheet would still balance.

In order to arrive at this last situation, it would obviously be unnecessary for the actual goods, which constitute the new equipment, ever to pass directly into the hands of the savers. The savers might use their savings to acquire shares directly, and the Firm might issue the shares for them to acquire, without the new equipment ever changing hands. If the value of the shares issued was equal to the value of the savings, it would

also be equal to the value of the net investment. The Firm's assets and liabilities would still balance; the savers would have acquired shares to the amount of their savings, while the goods which constitute the net investment would be retained by the Firm and added to its capital equipment.

So long as we assume that the whole of the capital equipment of the community is controlled by the single Firm, it is this last form which we ought to suppose the saving to take. People save by acquiring shares in the Firm; but the creation of the shares is only the reverse side of the accumulation of additional equipment by the Firm. When a person saves, he acquires the right to receive some part of the profit which will be earned by using the additional equipment which is being produced. He uses a part of his income to acquire a share in the indirect ownership of that new capital equipment.[1]

Let us look back at the combined balance-sheet of firm and shareholders, which was given in the last chapter,[2] and see how it is affected by saving. Taking figures more appropriate for a giant Firm, we should have, at the beginning of the year

	Liabilities	*Assets*	
Firm:	Shares £1,000 millions	Real Equipment	£1,000 millions
Shareholders:	..	Shares	£1,000 millions

At the end of the year

	Liabilities	*Assets*	
Firm:	Shares £1,050 millions	Real Equipment	£1,050 millions
Shareholders:	..	Shares	£1,050 millions

The extra £50 millions of shares held by the shareholders are their savings; the extra £50 millions' worth of Real Equipment is the Net Investment. Since the Firm's assets and liabilities must be equal *at both dates*, the savings must be equal in value to the net investment.

[1] A particular person may indeed dispose of his savings in another way than by lending them to the Firm he may lend them to another private person and so enable that other person to consume in excess of his income But we need not pay much attention to lendings of this sort, for when the borrower and lender are taken together, the saving obviously cancels out. There is no excess of total income over total consumption It is only savings which generate such an excess which are net savings, under our assumption of the single Firm which owns all the capital equipment such net savings must be lent to the Firm.

[2] p. 98.

Thus the fact that people save by acquiring titles to the ownership of parts of the new equipment, instead of by acquiring new equipment directly, does not disturb the relationship between the social product and the social income. That relation can be summed up in the following very important table.

On the earning side

Net Social Product	=	Wages + Profits	=	Social Income

On the spending side

Social Income	=	Consumption + Saving	=	Consumption + Net Investment	=	Net Social Product

These equations will remain valid in spite of all the further complications which we shall take into account in the rest of this chapter. But in the following chapters we shall encounter certain points where it is necessary to take some care over the interpretation of these equations.

3. It will be convenient, as a next step, to take into account some complications which can be allowed for while still supposing that industry is organized in a giant Firm.

In the first place, we have hitherto been assuming that the Firm pays out to its shareholders the whole of the profits which it earns, that the shareholders then save part of the incomes they get in this way, and that they lend these savings back to the Firm. In practice, a firm might be inclined to short-circuit this process, and to keep back part of its profits, instead of distributing all the profits to the shareholders directly. In such a case, what effectively happens is that the shareholders are compelled to save a part of the incomes which are due to them; additional shares may not be issued, but the shares previously outstanding will increase in value, because of the additional capital goods which they represent. The undistributed profits have to be reckoned as part of the social income; they are really part of the incomes of the shareholders, although they are not usually reckoned as such, because shareholders do not get

them into their own hands. They have to be reckoned into that part of the social income which is saved; there is a part of net investment corresponding to them, as there should be.

Secondly, we have been assuming hitherto that private people can hold in their personal possession no sort of capital goods, not even consumers' capital goods, such as houses. If we allow them to possess such things as houses, then the rents of these houses have to be reckoned as part of the social income, income derived from a form of capital which is not in the possession of the Firm. (It will be remembered that we are reckoning the use of the houses as part of the social product.) Expenditure on paying the rents of houses is of course a part of consumption. The building of new houses is a part of investment; we may suppose that the actual building is carried out by the Firm, but the part of its output which consists of new houses is sold off to private people, just as the consumption goods are sold off, and not lent back to the Firm, like other investment goods. If private people spend some part of their incomes in buying new houses, they are adding to the assets which they will have in their possession at the end of the year, just as they would do if they acquired shares; consequently income spent in buying new houses is a part of saving. The new houses are to be looked on as a part of new equipment, which is retained in direct private ownership, and not handed back to the Firm in return for shares.

Thirdly, we have been assuming that all labour is employed by the Firm. This is not very convenient in the case of some of the direct personal services. If we allow some of the people who provide direct services to be working on their own account, not for the Firm, we have to distinguish a part of the social product, consisting of these services, which is not part of the product of the Firm, and also to distinguish a part of the earnings of labour which are not wages paid by the Firm. The income spent on these services is a part of consumption, so it finds its place in the table without any difficulty.

Let us now consider what alterations have to be made in our equations to allow for these three complications which we have been discussing. On the earning side, instead of wages *plus* profits, we must write earnings of labour *plus* profits *plus*

house rents; and these in turn can be further divided up. So we have the following equivalent columns:

Social Product				*Social Income*
Net Product of Firm*	Wages earned in Firm* *plus* Profits earned by Firm*	Wages paid by Firm* *plus* Profits paid out in interest and dividends* *plus* Undistributed profits*	Earnings of Labour *plus* Interest and dividends *plus* Rents	Personal incomes *plus* Undistributed profits
plus Services of Labour not employed by Firm	*plus* Earnings of Labour not employed by Firm	*plus* Earnings of Labour not employed by Firm	*plus* Undistributed profits	
plus Use of house-room	*plus* House rents	*plus* House rents		

On the spending side, consumption and saving can be similarly divided up, so that we have as our other set of equivalent columns:

Social Income	Consumption of* goods produced by Firm *plus* Consumption of other labour services *plus* Consumption of house-room	Output of consumption goods and services	Consumption	Social Product
	plus Saving spent on buying new houses*	*plus* Output of new houses sold to savers		
	plus Saving lent to Firm* *plus* Saving in the form of undistributed profits*	*plus* Net new equipment of Firm	*plus* Net investment	

This expanded table has exactly the same significance as our earlier table, which it in no way supersedes. If we interpret wages to mean all earnings of labour, and profits to mean all earnings of capital, it is still true that the social income consists of wages plus profits, and that these wages and profits are earned in producing the social product. If we interpret saving to include undistributed profits, and investment to include the purchase of durable-use goods by consumers, it is still true that saving equals net investment; it is the equality between saving and investment which establishes the equality between income and product on the spending side. Understood in this way, the fundamental equations of p. 116 remain completely true.

4. We are now in a position to drop our assumption of the giant Firm. In the tables we have just given, the part played by the giant Firm is exactly the same as that played in reality by all the firms which compose industry and commerce, when they are taken all together. Our Firm is simply the whole collection of actual firms rolled into one. And we can see the part which this whole collection of firms actually plays in the earning and spending of the social income, by looking at the place of the single Firm (marked out by the starred items) in the above tables. On the earning side, the net product of the Firm is equal to the wages it pays out, *plus* its profits (distributed and undistributed). On the spending side, the net product of the Firm is purchased (1) out of consumption expenditure, so far as it consists of consumption goods; (2) out of saving, so far as it consists of new consumers' capital goods, such as houses; (3) out of saving, so far as it is offset by lending to the Firm, (4) out of saving, so far as it corresponds to undistributed profits. This is the position of the single giant Firm, as it appears in the tables; but this is also the position of the whole collection of firms, which compose the real world of industry and commerce, *when they are all taken together*. This we shall now proceed to show.

The new points which emerge when we pull apart our giant Firm into the multitudinous separate firms, large and small, which correspond to it in reality, are only two in number. On

the one hand, we have to take account of the materials[1] which are produced by one firm and sold to another, which uses them in its own production. These materials do not come into the picture, so long as industry and commerce are supposed to be amalgamated into one single Firm, because the passing on of materials from one stage of production to another is then a purely internal matter within the Firm. When the firms are pulled apart, the sale of materials looks just the same to the firm which sells them as any other sort of sale does. But since we have also to take into account the purchase of the materials by the firm which uses them, the sale and purchase of such materials will cancel out when all firms are taken together.

The other point which has to be taken into account when we have more firms than one is the possibility that a part of the shares (or other obligations) of one firm may be owned, not by private persons who are shareholders, but by another firm. If this happens, a part of the profits of the one firm will be paid out to the other firm; but here again, when all the firms are taken together, these transferences of profits will cancel out. The only profits left will be those which are actually paid out to private persons, or which remain as undistributed profits. A further consequence of this possibility is that savings lent to one firm may not be used as a means of increasing the capital goods in the possession of that firm, but may be lent again to some other firm. (An obvious example of this is the case of the banks.) These re-lendings, too, will cancel out when all firms are taken together.

5. Thus the separation of firms makes absolutely no difference to our general argument. All transactions between firms cancel out, when all firms are taken together, as they have to be for calculation of the *social* income or product But it will, nevertheless, be instructive to show in detail how the cancellation proceeds, by looking at the way in which firms do actually calculate their profits in practice. We shall continue to simplify by leaving out all reference to questions of taxation; but even

[1] There are also certain services, such as transport and insurance, which are performed by one firm for another, so that their role is similar to that of materials.

so it may be that the fitting together of the firms will be found a little bewildering. It is therefore wise to insist that no new principle is involved beyond those which have been set out in the preceding section.

The profits which are earned by a firm from the production of a particular year equal the value of its output *minus* the expenses to which it has been put to produce that output. These expenses include (1) wages and salaries, (2) cost of materials used up in order to produce the output, (3) cost of services, such as transport and insurance, provided by other firms, (4) depreciation of the *fixed* capital equipment.[1] Thus for any firm

Value of output = Wages + Cost of materials and services
+ Depreciation + Profits

This is the basic equation which expresses the part played by the Firm in the earning of the social income.[2]

We shall have to use this basic equation in many ways; it will therefore be convenient to define some terms which enable us to break it up into steps. In what follows we shall be careful to call the output (or sales) of the firm, in the sense ordinarily understood, its *Gross Output*. Gross output *minus* cost of materials (and services supplied by other firms) used up in production we shall call the *Net Output* of the firm; we may say, if we like, that net output is the part of the social output which is attributable to this firm itself. At the next step we want to deduct Depreciation. Since the terms 'gross' and 'net' mean nothing else but 'before and after deducting something', it will be inconvenient to 'net' again, and talk about 'net output net of depreciation'. We need something less clumsy. The most convenient procedure (and one which fits in remarkably well with common usage) is to associate the term 'product' with the depreciation deduction. What we shall therefore do is to say that the *net output* of the firm is the same thing as its *Gross Product*. Its *Net Product* is its gross product *minus* depreciation. The basic equation then tells us that net product equals wages *plus* profits.

[1] Depreciation is here used in the business man's sense, as depreciation of fixed capital only. See Appendix, Note C.

[2] From the accounting point of view, it is the trading account of the Firm. See Ch. XVIII below.

The basic equation is thus broken up into three steps.

Gross Output=Cost of materials and services+Net Output

Net Output=Gross Product=Depreciation+Net Product

Net Product=Wages+Profits.

These equations are true for every individual firm taken separately.

If now we take all firms together, as we must do for the calculation of the social product, we find that the sum of the net outputs of all firms equals the sum of the gross outputs of all firms minus the cost of the materials and services used in production. But in interpreting this relation, we must take account of the services performed by one firm for another, and of the materials sold by one firm to another. The transport, insurance, &c., which figure among the expenses of production for most ordinary firms, are part of the gross output of such firms as the railways and insurance companies, and can be cancelled out against that output. Materials which are produced by one firm within the year, and used up by another firm within the year, are reckoned in the gross output of the first firm and in the cost of materials of the second; thus they also can be cancelled out when all firms are taken together. But some of the materials which are produced during the year will not be used during the year, but will be added to stocks; some of the materials used during the year will not have been produced during the year, but will be taken from stocks. Thus *all* materials will not necessarily cancel out. It should also be noticed that there are some goods which are sold by one firm to another which will not cancel out, because they are not such as to be used up in the production of this year's output; these are the durable-use goods, the fixed-capital goods, which go towards replacing or increasing industry's stock of fixed capital

When we have performed these cancellations, the sum of the net outputs of all firms comes out as follows:

Gross output of goods sold to consumers
plus Gross output of fixed capital goods sold to other firms
plus Value of materials added to stocks
less Value of materials taken from stocks.

The first of these items is the output of consumption goods,

plus fixed-capital goods (such as houses) sold to consumers; the second is the gross output of fixed-capital goods used in industry—gross investment in industrial fixed capital; the difference between the third and fourth items represents the net investment in materials. It is convenient to use the term *Gross Investment* to mean *gross* investment in fixed capital *plus* *net* investment in materials. Thus we have shown that the sum of the net outputs (or gross products) of all firms equals the gross output of all consumption goods plus investment goods produced by industry. In fact, if we neglect the complication about investment in materials, we may say that the distinction between gross output and gross product, which is so important for the individual firm, disappears when all firms are added together. This is precisely what happened when we were considering the giant Firm.

The net product of each firm is the difference between gross product and depreciation. Thus the sum of the net products of all firms is got by deducting the sum of depreciation from the sum of gross products (or net outputs). But the latter has been shown to equal the sum of the output of consumption goods plus gross investment. Deducting depreciation from this,

Net Product of industry = Output of consumption goods
+ Net Investment.

But the net product of industry is the sum of all the wages and profits earned in industry. Thus we have shown that the sum of the wages and profits earned in industry is equal to the output of consumption goods produced in industry plus the net investment produced in industry—just as was the case with the giant Firm.

6. So far we have been concerned with the wages and profits *earned* in industry; we must now proceed to follow them through until they (or the greater part of them) become personal incomes in the hands of individuals. The wages earned during the year are of necessity paid out directly to private persons —the wage-earners; thus at this round there is nothing to be considered on the side of wages. Profits, on the other hand, are not so simple, for a part of profits may be held back in

undistributed profits, and part may be paid out to other firms. But if we are to take notice of the possibility that firm *A* distributes dividends to firm *B* (which holds shares in firm *A*), we must also take account of the possibility that firm *A* itself may hold shares in firm *C*, and receive dividends from firm *C*. These dividends, like the profits made by firm *A* itself, are available for distribution to the shareholders of *A*.

Thus, in considering the distribution of a firm's profits,[1] we have the equation:

Profits earned in production
  + Interest and dividends received from other firms
= Interest and dividends paid out to private persons
  + Interest and dividends paid out to other firms
  + Undistributed profits.

When all firms are taken together, the interest and dividends received from other firms and the interest and dividends paid to other firms must be equal; they can therefore be cancelled out. Thus, for all firms taken together,

Profits earned in production
= Interest and dividends paid out to private persons
  + Undistributed profits.

Now we have seen that the net product of industry equals the sum of wages plus profits earned in industry; it therefore follows that the net product of industry equals the wages and profits paid out to wage-earners and shareholders (or property-owners) *plus* undistributed profits. This is just as it was in the case of the giant Firm, so that the validity of our table showing equality of net social product and social income, on the earning side, is fully checked up.[2]

[1] Taxation, in accordance with the general practice followed in this chapter, is of course still left out.

[2] This account of the distribution of a firm's profits has been put in terms of the joint-stock company (see Ch. IX above), for that is nowadays the most important type of firm. Other types can be fitted in, however, without much difficulty. A man who is in business by himself does not distinguish between profits paid out to himself (as sole shareholder) and undistributed profits—in effect all his profits are distributed, but he may still have to pay interest to other firms, as, for instance, on a loan from his bank. A farmer who rents his land from a landlord is best regarded as paying rent in place of interest (for he might have borrowed money and purchased the land

7. When we turn to the spending side, things can easily become a bit tricky; this is indeed a field where some quite classic muddles have been known to occur. One is tempted to say (as eminent economists have in fact said on occasion) that the equality of social income and net social product has already been established along one route, so that it must hold along the other also—which makes further discussion unnecessary. But the reader would be justified in feeling that a short cut of this sort is a bit unsatisfactory. There is nowadays no reason why we should not follow the thing through, and satisfy ourselves that the equality holds along this other channel also. If we go step by step, and watch our steps carefully, we shall come out all right.

The chief thing which has caused difficulty, and about which we have to be careful, is the role of money. When a private person saves, he may use his savings to buy consumers' capital goods, such as a house (we have taken account of that); or he may use them to buy shares or bonds (we have taken account of that too); or finally he may use them to add to his holding of cash, such as his bank balance. It is over this last form of saving that trouble so frequently arises. We can, however, avoid all this trouble, once we remember the principle which was established on pp. 106–7 of the preceding chapter, when we were discussing the national capital. Apart from the gold reserves held for purposes of international trade (which can here be left out of account, as we are neglecting questions of external relations), modern money consists of nothing but a debt from a bank to the holder of the money; thus if a person increases his holding of money, he is simply increasing the debt owed to him by the bank—that is to say, he is lending to the bank. Now though there are important ways in which lending to a bank is different from lending to other firms, nevertheless from our point of view banks are firms; lending to a bank must be reckoned as lending to firms, like other lending to industry and commerce.

outright). The real difficulty about these latter cases is the absence of a clear distinction between wages and profits, income derived from the man's own labour and that derived from the capital equipment in his possession is not clearly divided up. This lack of distinction will cause us a good deal of trouble later; but since the total of wages *plus* profits earned in such activities is quite clearly defined, it obviously does not affect the principle with which we are here concerned.

It follows that all saving, which is not employed in purchasing consumers' capital goods, must be lent. Since lending by one private person to another will evidently cancel out, when all private persons are taken together, we must have, for all private persons taken together

Personal income
= Consumption
+ Saving
= Purchase of consumption goods and services
+ Purchase of consumers' capital goods
+ Savings lent to firms.

In order to show that social income equals social output, by the spending route, we have to show that this saving lent to firms by private persons, *plus* the saving provided by the firms themselves out of undistributed profits, equals net investment by firms.

In order to see that this is so, we must look back at the typical balance-sheet of a firm, as shown in the table on p. 97 above. The balance-sheet must balance, at the end of the year as at the beginning; therefore the sum total of the increases in assets (on one side of the account) must equal the sum total of the increases in 'liabilities' (on the other).[1] Now the changes which occur over the year in the various balance-sheet items can be identified with sums which fit in to the yearly account, on which we are now working. The increase in equipment equals gross investment *minus* depreciation, or *net investment*. An increase in 'trade debtors' is equivalent to *net lending* by the firm. Increases in shares issued, in bonds, in bank debt, or in trade creditors, can all be regarded as *new borrowing*, of one kind or another. An increase in the reserve balance can only come from undistributed profits. Thus the balancing of the balance-sheet, at the end of the year as at the beginning, tells us that

$$\begin{array}{c} \text{New borrowing} \\ + \\ \text{Undistributed profits} \end{array} = \begin{array}{c} \text{New lending} \\ + \\ \text{Net Investment} \end{array}$$

This equation is true for every firm,[2] and the corresponding

[1] Some (or all) of these increases may of course be negative (decreases).

[2] It is useful to notice that it is just as true for a financial business, such as a bank, as it is for an industrial concern In the case of a bank, net invest-

totals will therefore still be equal when all firms are taken together. But when we add up, lendings and borrowings from one firm to another will cancel out; lendings by firms to the public must be deducted from the borrowings from the public. Thus, for all firms taken together,

$$\begin{array}{c} \text{Net new borrowing} \\ \text{from private persons} \\ + \\ \text{Undistributed profits} \end{array} = \begin{array}{c} \text{Net Investment} \\ \text{by firms} \end{array}$$

This is what we had to show. For the net borrowing from private persons equals the personal savings lent to firms. Subject to the assumptions which we made at the beginning of this chapter, the equality between social income and net social product is fully checked up. It is valid whether we look at it on the side of earning, or on the spending side.

8. The methods which are commonly used by statisticians for the calculation of the national product (or national income) now suggest themselves at once. Although there are certain corrections which have to be introduced when the simplifying assumptions are dropped (we are going to discuss these corrections in the following chapters), the connexion between net national product and the sum of incomes remains close enough for it to be possible to approach the same problem from either side, from the side of output or from the side of income.

Probably the best method, if it can be employed, is the *income* method, which proceeds along the route of adding up the incomes of all members of the community. This has always been the basic method for the calculation of the national income of the United Kingdom. Even before 1939, when the proportion of the population paying income tax was much smaller than it is today, the income method was quite usable; for the incomes of most people who were not wage-earners were classified in the accounts of the Income Tax, and the incomes of the wage-earning population could be assessed from the statistics of earnings

ment in equipment will almost certainly be tiny; even if the bank is building new branches, the cost of the new buildings will be small relatively to the general scale of its operations. It is the new borrowing and lending which matter to the bank; but we see from the above that these fit into their place.

collected by the Ministry of Labour. The gap which was left to be covered by indirect estimates was therefore quite narrow. With the great extension of liability to income tax which took place during the war, and which has been maintained subsequently, the use of the income method has become still easier. There are, however, not many other countries which are so well placed as Britain for the use of the income method; though since the extension of income tax to wider sections of the population has been a fairly common experience, quite a number of countries are better placed for use of the income method than they were before 1939.

The second method is the *production method*, which approaches the problem from the output side. If there exists a census of production for the year in question,[1] the net products of most firms can be calculated from it, and have only to be added together. Estimates have to be made for the sorts of production not included (or not satisfactorily included) in the census, and these are inevitably less reliable; nevertheless, there exists a variety of indirect methods by which quite good estimates can be made. Once the production method has been applied to a year for which there is a census, the indirect methods allow it to be extended to neighbouring years; this can give quite good results, and is a very different matter from a production estimate that is entirely based upon indirect evidence, without any census of production to serve as a check. In such countries as the United States and Sweden the first estimates of the national income were based upon the production method; but though the production method continues to be employed, the income method is more usable in such countries than it used to be.

With greater experience, and the increasing abundance of economic statistics, the accuracy of both methods has been very generally improved; but perhaps the most important development in this field which has occurred since 1940 has been the general practice of checking the results got by the one method against those got by the other. As the theory of the national income has become better understood, it has been realized not merely that the totals need to square, but that several of the component parts can be checked against one another as well. A

[1] See above, p. 6.

good modern estimate of the national income of a country is based upon both methods, and is thereby both better and more informative than it would be if it were based upon one of them alone. A very ample supply of economic statistics is, however, needed before it is possible to satisfy these rather exacting requirements; a country whose general sources of economic information are poor cannot hope to have its national income estimated in a manner which is at all trustworthy.

The double method, of estimating from the income *and* from the production side, can sometimes be supplemented by a third approach, from expenditure. The social income, on the side of spending, is equal to the value of consumption *plus* saving. An estimate of the value of consumption can sometimes be made by using statistics of retail trade; information can sometimes be got about some, at least, of the channels of saving. If these figures are available, a rough estimate of the national income can be made from them. The expenditure method is less reliable than the other methods, but since its results ought to square with those got by the other methods, it is useful as a check. And estimates of the value of consumption and saving are of course exceedingly interesting in themselves.

We shall examine the results of some of these investigations later; but before we can do so, we must discuss the qualifications to the statement that net national product equals the sum of the incomes of members of the nation. We shall begin with the question of external relations.

XII

FOREIGN PAYMENTS AND THE NATIONAL INCOME

1. So long as we are concerned with a self-contained (or 'closed') community, the theory of the social income is quite a tidy matter. It has plenty of complications, which have caused us some trouble in the preceding chapter, but in every case the complications come out in the wash, and we are reduced to the fundamental equations of earning and spending:

Net Social Product = Wages+Profits = Social Income
Social Income = Consumption+Saving
= Consumption+Net Investment = Net Social Product.

The snake always eats its own tail.

When, however, we proceed to apply the same arguments to the case of an 'open' economy, such as a nation ('open' because it has economic relations with foreigners, people outside it) we cannot expect to get the same tidiness. Every sort of economic relation with foreigners leads to a particular kind of loose end. There is a sense in which the loose ends can get tied up, after a fashion. But before we attempt to tie them up, we must begin by identifying them, and finding places for them. They can in in fact be reduced to six types.

(1) The first kind of economic relation with foreigners which has to be considered is the selling of goods and services to foreigners—exports.[1] From our point of view, the existence of

[1] Throughout this chapter I use the words *imports* and *exports* to mean *all* goods and services sold by members of the nation to outsiders or bought by them from outsiders. This is the natural economic meaning. But before we can apply our reasoning to the published statistics of imports and exports, a warning is necessary. The imports and exports recorded in the statistics are only those which pass under the noses of customs officials at ports or customs houses; but not all the things which are imports or exports in the economic sense do so. The imports and exports which are recorded by the customs officials are called *visible*; the others are called *invisible*. A very important invisible export of Great Britain is the transport by shipping which British sailors perform for outsiders, another is the insurance done for foreigners by British insurance companies, neither of these get included in the official statistics of exports. Another invisible export is the services

exports means that not all the goods which enter into the national product are purchased out of the national income. Some of the national product is purchased by foreigners, whose incomes are not part of the national income.

(ii) The second kind is the purchasing of goods and services from foreigners—imports. It is no longer true that the whole of the national income is spent upon buying the national product; some of it is spent upon goods produced by foreigners. These two points are relatively obvious.

(iii) We next come to a point which we have already encountered, in another form, when we were dealing with the national capital. The social capital of a closed community consists of the goods possessed by its members; the social income of a closed community is derived from the output of labour working on those capital goods. That is why, for a closed community, social income equals net social product. But the national capital of a nation may include not only goods but also obligations due from foreigners; in this case, there will be members of the national community who derive incomes from interest or dividends on these foreign assets, as well as from the national product. Or, on the other hand, it may be that members of the nation have obligations owing to outsiders, on which they have to pay interest or dividends; if so, a part of the national product has to be paid to foreigners, and only what is left over after these payments have been made remains to form the incomes of the nation's own members. Thus it is no longer true that the total of interest and dividends paid out to private people within the nation, *plus* undistributed profits accruing within the nation, equals profits earned within the nation. Some part of the profits may be paid out to foreign creditors; and some of the interest and dividends received may come from foreign debtors.

(iv) Before interest can be received and paid on foreign loans, the loans themselves must have been made. Thus the fourth kind of economic relation which has to be taken into account is foreign lending and borrowing. It is no longer true that net lending by private people within the nation (after lending by

performed for foreign tourists. When Americans travel in England, England is (invisibly) exporting; when Englishmen travel on the Continent, England is (invisibly) importing.

one person to another has been cancelled out) equals net borrowing by firms within the nation (after lending by one firm to another has been cancelled out). For it is now possible that private persons may lend abroad; and that firms may borrow (or lend) abroad. Thus in the open economy, it is no longer true that saving equals net investment; we have to say that saving equals net investment plus net foreign lending.

These are the main sorts of economic relation with foreigners which have to be allowed for when we are considering the national income of an open economy. But there are two minor modifications which need to be added for the sake of completeness.

(v) The first of these is the matter of gifts. In a closed community gifts do not require any special attention, since gifts from one person to another are bound to cancel out when all private incomes are taken together. But in an open community, it is possible that there may be gifts which are made from outsiders, or to outsiders, so that they will not cancel out. It might be thought that gifts across national frontiers would not be very important. But there are cases in which they have been quite important. The Irish economy, for instance, was at one time very dependent on remittances from emigrants to their relatives who stayed at home; the Israeli economy is very dependent upon gifts from co-religionists in other countries. Government-engineered gifts, of which Marshall Aid has been the most celebrated, have played a very important part in the reconstruction of Europe after the Second World War. Thus gifts are altogether too important to be neglected.

What is the best way of dealing with such gifts? There are two possibilities. On the one hand, we may regard the gifts as an exception to the rule that income equals consumption plus saving. We then say that if a man receives a gift, he is enabled to consume and save in excess of his income by the amount of the gift; if he makes a gift, it comes out of his income, but does not reckon into his consumption or his saving. If we say this, we are not saying anything at all unnatural; and there are some sorts of gifts for which a procedure of this sort is distinctly convenient.

There are, on the other hand, some sorts of gifts which are

not conveniently treated in this way, but are better regarded as exceptions to the rule that saving equals net investment *plus* lending. This is especially so when we are dealing with cases like that of Marshall Aid, when money, which might have been lent, is in fact given outright. Since it is international gifts of this type which are at the present time the more interesting, we shall confine attention to them in the course of this chapter.[1] Thus we shall retain, for the present, the condition that income equals consumption plus saving; but we shall say that saving equals net investment plus lending plus gifts to outsiders (or minus gifts from outsiders).

(vi) Finally, it will be remembered that when we were dealing with the place of money in a closed economy, we found that it required no particular attention in our equations, because an increase in the holding of money by a person or business could always be regarded as a special type of lending—lending to a bank. But it was already pointed out there that this might not be the case when we were dealing with an open economy. For it now becomes possible that a bank may use some part of the funds entrusted to it (or which it has saved) to acquire international money, money, that is, which is acceptable to foreigners. Such money may itself be 'debt' money, taking the form of a loan to (or deposit in) a bank in some other country. In that case we should have no trouble which we have not already faced. But it is possible that the international money acquired may be Gold, the old-fashioned metallic money which has not lost its international acceptability.[2] We have therefore to take into account the possibility that some part of the net saving and borrowing by business (in the widest sense, which includes the bank) may result, not in net investment, in the usual sense, but in the acquisition of gold [3]

[1] We shall come back to the other sort later on See below, p. 230.

[2] In practice, it is only central banks and governments which acquire gold to an important extent.

[3] Since the Gold Reserve is to be regarded as part of the national capital (see above, p. 107) it would be possible to regard the acquisition of gold as a form of investment. But it is better to distinguish the gold reserve from that part of the national capital which consists of real equipment, for its function is quite different If we do this, we must only reckon the increase in real equipment as investment; the acquisition of gold must be regarded as a separate item.

2. The next thing to be done is to rework our tables of the earning and spending of the social income, in order to fit the loose ends into their places. For this purpose we do not need to raise again all the complications which bothered us in the preceding chapter. It will be sufficient if we go back to the giant Firm. We have shown that the splitting-up of the giant Firm into numerous individual firms makes no essential difference to the argument; the same will evidently hold for the open national economy as held for the closed economy which we considered previously. Let us therefore suppose that all the industry and trade of the country—all its economic activities—are carried on in a giant Firm; this will mean that all the foreign trade goes on through the Firm. Thus all the exported goods are sold by the Firm; and all the imports are bought by the Firm in the first place, being either resold directly on the home market (the Firm merely acting as agent) or used as materials for further production. By this device, we can reckon all the goods purchased by home consumers as part of the Firm's output; the imports will all reckon as purchases by the Firm, that is to say, as materials used by the Firm.

With these understandings we can proceed at once to adapt the notions which we used in the last chapter for the case of the Firm,[1] so as to work out the earning and spending of the *national income*. It will be convenient to have a name for that part of the gross output of the 'nation-firm' which is not exported; let us call it Gross Retained Output.[2] In accordance with what has just been said, gross retained output will include the whole output of consumers' goods and services enjoyed by home consumers. It will also include the whole output of fixed capital goods used for extending or replacing the equipment employed in home industry; this latter is not quite the same thing as Gross Home Investment,[3] but it will be convenient to stretch the

[1] See above, p. 121.

[2] It is odd that no one has yet coined a name for this item, which actually figures to a large extent in many economic discussions.

[3] The difference, which we are here allowing for, will be recognized by the reader of the preceding chapter as being equal to net investment in materials. Since we are going to reckon this into gross output (for present purposes), the cost of materials and services which has to be deducted before arriving at net output will have to *include* net investment in imported materials. That is to say, we have to deduct the *whole* amount of materials

definition of gross retained output so as to include the whole of gross home investment. Thus

Gross Retained Output
= Home Consumption + Gross Home Investment, while

Gross Output of the Nation-Firm
= Gross Retained Output + Exports.

The Net Output (or Gross Product) of the nation-firm is the difference between its gross output and the cost of materials and services acquired from outside.[1] Thus the *Gross National Product* (as we may properly call it, and as it is customary to call it) equals

Gross Retained Output + Exports — Imports.

The Net National Product (once again, just as in the case of the firm) equals Gross National Product *minus* depreciation. Now since gross retained output includes gross home investment, and depreciation is an offset against gross home investment, it will be convenient to set off depreciation against gross retained output, calling the difference Net Retained Output. Net retained output is therefore the sum of home consumption and net home investment. We can accordingly sum up the whole of this part of our argument in the equation:

(*A*) Net National Product
= Net Retained Output + Exports — Imports.

In this equation the first two of the ways in which the nation differs from a closed economy are already allowed for.

We now pass on to the third complication. Just as in the closed economy, it is still true that net national product equals the sum of wages and profits, for these are all that remain to be allowed for in the account of the 'nation-firm'. But it is not true, as in the closed economy, that the sum of wages and profits equals the national income. Income from foreign assets (positive or negative) has also to be considered. The national income equals the sum of wages and profits *plus* net income from foreign assets. Thus:

(*B*) National Income
= Net National Product + Net income from foreign assets.

and services imported from outside, which is the whole amount of imports.

[1] See preceding note.

In equations (A) and (B) the earning side of the national income is fully set out.

We now turn to the spending side, where we have to face the three remaining complications. The equation

$$\text{Income} = \text{Consumption} + \text{Saving}$$

holds as before; there is no trouble there. But it is no longer true, as it was in the closed economy, that all saving (which is not spent on consumers' durable-use goods) must be lent to the 'nation-firm', so that saving will be necessarily equal to net home investment. The remaining complications are nothing else but other things which may happen to the saving. We can therefore write

Saving = Net Home Investment + Net foreign lending
+ Net Acquisition of Gold + Net Gifts to Foreigners.

These three further points come into the saving equation in exactly the same way.

Since Home Consumption *plus* Net Home Investment equals Net Retained Output, the spending side of the national income can be summed up in the following equation:

(C) National Income
= Net Retained Output + Net Foreign lending
+ Net Acquisition of Gold + Net Gifts to Foreigners.

In equations (A), (B), and (C) all our loose ends have been fitted into their places.

3. But now we come to the most important difference between the theory of the national income in an open economy and the corresponding theory in a closed economy. In the case of a closed economy we were able to establish the identity between social income and net social product on the earning side *and* on the spending side. Thus it was not really necessary to work the whole thing out on both sides (though it was instructive to do so) since we got the same result either way. In the case of the open economy we do not get the same result either way. The two ways of reckoning give us different results. But it is still true that the two ways of reckoning must be consistent with one another. That can only happen if there is a relation between the

loose ends which figure in the equations (*A*), (*B*), and (*C*). Now (*A*) and (*B*) have shown us that the difference between national income and net retained output equals

Exports—Imports+Income from foreign assets;

(*C*) has shown us that the same difference equals

Foreign lending+Acquisition of gold+Gifts to foreigners.

These two must be equal. Now the difference which can be expressed in either of these ways is a very important magnitude. It is called the Balance of Payments.

Thus what we have shown is that the balance of payments is the difference between national income and net retained output; and that it can be expressed in either of the ways we have just written. These statements about the balance of payments sum up all that need be said about the special problems of the national income of an open economy.

It will be noticed that there is no reason why the balance of payments should necessarily be positive (or 'favourable'). In fact, it appears at once that if one country has a favourable balance, some other countries must have an unfavourable balance. For consider a world in which there are only two countries. The exports of one country would be the imports of the other; if one country had a positive income from foreign assets, the other must have a negative income from foreign debts. Thus a favourable balance for one country *means* an unfavourable balance for the other. The same reversibility obviously holds when the balance of payments is expressed the other way.

4. The identity between the two ways of expressing the balance of payments can also be shown in a more direct, but perhaps at bottom less instructive, manner. As we have seen, the money possessed by a particular person (or firm) at a particular time consists of nothing else but a debt to the holder from his bank (or, in the case of bank notes, from the bank which has issued the notes). Therefore, if an English firm buys machinery from the United States, the only way in which the import can be paid for in the first place is by giving the American seller a claim

on an English bank; the transferring of this claim may take various forms,[1] but the simplest is to hand over a cheque. The cheque is an instruction to the English bank to transfer part of the money which stands to the credit of the English buyer and put it to the credit of the American seller. The result of the transaction is that the English buyer acquires the machine, and the American seller acquires a claim on the English bank—a debt due to him by the English bank. If the American seller now pays the cheque into his own bank in America, the American bank acquires the claim on the English bank, but has a debt owing to the American seller to set on the other side of its account.

There are thus at least four parties to the transaction—the English buyer, the American seller, the English bank, the American bank. The transactions between the English buyer and the English bank, and between the American seller and the American bank, are internal to their respective countries, so they do not affect the balance of payments. As between England and America, there is the English import of American machinery, and the debt from the English bank to the American bank which offsets it. And that is all. England has imported the machine, and an English bank has borrowed from an American bank to 'finance' the import.

The same thing happens when anything is imported into Great Britain; it also happens when British people pay interest of foreign liabilities; and it also happens when they lend directly to foreigners (for example, by buying shares in foreign companies). All these things involve loans from foreign banks to British banks.

Most of these loans, however, are speedily cancelled out. For when anything is exported from Great Britain, or when members of the British community receive interest or dividends on foreign assets, or when foreigners buy shares or bonds from British people or from British companies, debts between banks are set up which go in the opposite direction. All these things involve loans from British banks to foreign banks, and they go a long way towards cancelling out the first set.

It is quite usual for the two sets of bank debts to cancel one

[1] The other forms (bills of exchange, &c.) are described in all textbooks on money.

another out almost completely. If so, the balance of payments balances, or nearly balances, without the bank lending being taken into account. But the balance still formally balances, even if a net lending by banks (British banks to foreign banks, or foreign banks to British banks) is necessary to settle a difference; for the bank lending *is* lending, so that when *all* lending is included, the two sides must add up to the same figure.

Nevertheless, bank lending or borrowing, necessary to settle differences, is not like other lending or borrowing; when it increases beyond a certain point, trouble arises. For the amounts which the banks of any nation can borrow from the banks of other nations in this way are limited; the limit may vary in different circumstances, but it is always there. As the limit is approached, the government (or central bank) may sell gold, a reserve of which is kept for such emergencies. But most countries (including Britain) do not possess so much gold that they can protect themselves very far by such means. The only countries which nowadays possess a really large gold supply are the gold producers (such as South Africa, Canada, and Russia) together with the United States. Most countries, when they are unable to pay for their imports excepting by a large amount of bank borrowing, are in an awkward predicament. It was this position which Britain reached in the autumn of 1931, when the gold standard was abandoned, and again on several occasions since 1945. We shall have something further to say about such 'balance of payments crises' in Chapter XXI.

5. The balance of payments equation throws a great amount of light upon another range of problems also. When we are concerned with the broad movements of economic history, we need not pay much attention to the balancing loans of the banks, nor to gold movements, which are only important at moments of crisis. Nor need we worry about international gifts. We can write the balance equation

Net Foreign lending
$$=\text{Exports}-\text{Imports}+\text{Net Income from foreign assets}$$

and not worry much about the other items.

Now consider the position of a country, such as Great

Britain must have been at some time in the late eighteenth century, which is neither a creditor nor a debtor country to any considerable extent. If such a country lends abroad, it can only do so by exporting more than it imports This is the first phase of lending. After it has lent abroad for a number of years, the interest on its past loans will begin to amount to a considerable sum, so that if it is to retain a surplus of exports over imports, it must lend abroad more than ever. Even if it goes on lending abroad, but lends less than the amount of the interest on its past loans, imports will become greater than exports. This seems to have been the usual situation of Britain after 1850; she was still lending abroad, still adding to her foreign assets; but her new lending was usually rather less than the interest on her old loans, so she had a surplus of imports over exports.

Now suppose that as a result of some emergency, such as a war, the country which had been lending abroad begins to borrow abroad, or to sell off its foreign assets. During the war, since net foreign lending is negative, and net income from foreign assets is still positive, the excess of imports over exports becomes much larger than usual. But this excess of imports is paid for by giving up foreign assets; if the loss of foreign assets is large, net income from foreign assets will be much reduced when the war is over; consequently the country will be unable to lend abroad and build up its foreign assets at the old rate, unless it manages with a smaller excess of imports over exports than it did in the past. Something like this seems to have been the situation of Great Britain between 1919 and 1939; during these years her net foreign lending was very small indeed. It will be observed that if the loss of foreign assets goes still farther, so that there is no net income from foreign assets any longer, the country will only be able to lend abroad, and so build up its foreign assets again, if it can secure an excess of exports over imports, as in the first phase. That, roughly speaking, is the situation of Britain today.

So far we have considered the position of a lending country, which only borrows in an extraordinary emergency; but for every lender there must be a borrower—where could the normal lending of the earlier phases go to? It is perfectly reasonable

and sensible for a country to borrow abroad as a normal policy if the borrowing is used productively—if it enables the borrowing country to make net additions to its national capital. The national capital of a borrowing country, let us remember, consists of the capital equipment it possesses at home *minus* its foreign debts. If foreign borrowing is spent wastefully, it involves a net loss of national capital, just because debts mount up; but if the borrowing is employed to make additions to home equipment, which are more valuable than the debt outstanding against them, then national capital is actually increased as a result of the borrowing. There can be little doubt that most of the foreign borrowing carried out by overseas countries has been of this type; the British Dominions and even the United States could not have grown as they have done (they could not even have drawn the populations they have done) if they had not borrowed on a vast scale during their period of growth.

The phases of borrowing can be followed through in the same way as the phases of lending. Suppose that a country (which is initially neither a creditor not a debtor) begins to borrow abroad; then in the first phase its imports will exceed its exports. The additional imports may consist of capital goods or of consumption goods; it should be noticed that the import of large quantities of consumption goods, financed by borrowing, does not necessarily mean that the borrowing is being used unproductively. For the import of consumption goods may enable the country's own labour force to be turned over to the production of new capital equipment; if the consumption goods had not been imported, they would have to have been produced at home, if they do not need to be produced at home, the factors of production which might have produced them can be used to make additions to equipment. In a practical case, when a country borrows to build a railway, the additional imports consist partly of railway equipment produced abroad, partly of consumption goods supplied to the workers who are installing the equipment or doing the other parts of the construction which have to be done on the spot. Or perhaps the rearrangement of production is even more complicated; but the principle remains the same.

The second phase on the borrowing side comes when the interest on past borrowings mounts up; then (exactly as in the lending case) the country will have to borrow even more rapidly than before if it is to retain a surplus of imports over exports. If the rate of borrowing falls off, or fails to expand, sooner or later a point must be reached when exports must exceed imports. In practice, this point always is reached after a certain time.

If the borrowing has been used productively, the excess of exports over imports can generally be brought about with very little trouble. For the increase in capital equipment will have increased the nation's productive power; the production of goods is increased, and out of this increased production, extra goods can be spared for export without any great sacrifice. We do in fact observe that in the latter years of the nineteenth century, when the second phase was reached by a large number of debtor countries, their exports (particularly their exports of raw materials and foodstuffs) expanded notably. Out of these exports they paid the interest on their debts, but they were able to pay and still to enjoy a mounting prosperity.

6. Productive lending and borrowing, as we have been describing it, is a profoundly beneficent process. Without the international lending of the nineteenth century the productive powers of the borrowing countries could hardly have been developed at more than a snail's pace; and without the development of production in new lands the older countries would have lacked the foodstuffs and raw materials which have enabled them to support rising populations at rising standards of living. It is highly probable that the economic opportunities for such productive lending are far from exhausted; the mass of poverty in Asia and Africa still needs a vast increase of capital equipment if it is to be remedied; it is unlikely that the peoples of the poorer 'under-developed' countries will be able to provide what they need from their own savings within any measurable period.

We should never forget, however, that international lending leads to political difficulties which do not arise from internal lending. The fact that borrower and lender live under different governments and different legal systems makes the obligation from borrower to lender harder to enforce; thus international

lending will often proceed more smoothly (lenders will be more willing to lend) if the government of the lending country can influence the government of the borrowing country to see that the debts due to its citizens are respected. But such pressure is widely resented, partly on grounds of national self-respect, partly because it weakens the authority of a government that submits to it. It is therefore easy to work up strong feelings against 'capitalist imperialism', feelings which have had so clear a run during the last twenty years as to make development by international lending of the old type nearly impossible, at least for the time being. It is probable that these feelings have derived some of their strength from the belief that there are alternatives. It may be worth while to say a word about these alternatives from our present point of view.

One of the alternatives is Communism. Russian Communism itself was originally, in one of its aspects, a revolt against the 'tyranny of international capital'. Chinese Communism is even more clearly a movement of this kind. The Russian example has shown that it is possible, under favourable circumstances, for a country to develop itself with great rapidity out of its own savings—though the sacrifices that must be imposed upon a poor people, in the course of such development, are exceedingly severe. That the same thing can be done by countries with fewer natural resources, and with less skill and stamina, looks improbable. Nevertheless, there are many people, in many countries, who would like to try the experiment, whether they call it Communism or something else. They may or may not be successful; what is certain is that a poor country can only develop itself by this route at the cost of much privation, which is not a good thing in itself, and which it takes much determination to stand. Development through international lending is a much easier and less painful process. It would be preferable (as a second view would admit) if only its political consequences could be avoided.

This second line of thought leads to the idea of canalizing international lending through international institutions (such as the World Bank) of which a variety already exist. On such institutions the borrowing country, and other borrowing countries, will be represented, the lenders will not have it all their own

way, so that the borrowers will be protected against 'imperialist' pressure. The lender will be able to get his rights, as assessed by an international body, but no more. So far, although much has been done in the way of setting up such institutions, it must be admitted that they have not achieved a great deal. The private investor may well have some doubts about the security offered; governments (the alternative source of funds) are almost obliged to look upon any international lending for which they are responsible as an instrument of foreign policy. So the way is not so clear after all. It remains to be seen whether either of the 'modern' methods of financing development is as effective as the old-fashioned lending by private investors, which worked remarkably well in those cases where the people of the borrowing country kept their word and adhered to the contracts they had made.

7. This, however, is not the whole story. The great wars of the twentieth century have caused vast dislocations in the international debt structure. Before 1914 the great creditor nations (nations with net foreign assets) were Great Britain, France, and Holland; it was no accident that these were also the great colonial powers. Germany also was a creditor nation, but to a less degree. Among the debtor nations were almost all the Americas, Russia, the British Dominions and India, China, and Japan. Though some of these debts (the Japanese for instance) were war debts, the greater part were of a productive character; interest on them could be paid, and in most cases easily paid, out of the profits earned by the use of the capital goods they had helped to create. The effect of the two wars has been to overlay this productive debt with a vast mass of war debt (including 'reconstruction' debt), which runs in almost exactly the opposite direction, from the countries of Western Europe (including Great Britain) to various countries in the non-European world. Thus the creditor position of the old creditor countries has been very thoroughly upset; the main source of funds for international lending, in the new conditions, is bound to be the United States.

War debts are nearly always more disturbing than other debts; they arise so suddenly that industries have no time to

be adapted to them, and they are accompanied by no increase of productive power in the debtor countries. The case of Germany in the nineteen-twenties is a celebrated example. As a result of foreign liabilities imposed on her by reparations, and by the interest on the loans which she had raised to restore her working capital after the ravages of war and post-war mismanagement, she found herself (by 1928–9) under the necessity of creating a surplus of exports over imports, without having the time or opportunity to reshape her industrial system so as to be able to create that surplus in a tolerable way. The case of Great Britain after 1945 has been not altogether dissimilar, though the outcome (so far) has been much more fortunate. Britain has been helped by a number of factors which did not operate in the German case. One of these has been the buoyancy of demand for exports, especially motor vehicles, which she is well fitted to produce; another is the immense amount of assistance which she has received by free gift, rather than by loan (first under Lend-lease, then under the Marshall Plan); a third is the extent to which she has been able to postpone bearing the full weight of her debts, by various arrangements with her creditors. But all these mitigating circumstances have not saved her from being in a difficult position. She has been unable to manage without severe restriction of imports; and (what is especially important for our present discussion) she no longer possesses the surplus of saving available for foreign lending that she used to have in the old days.

The transformation of America from a debtor to a creditor country has likewise created problems; these first began to show themselves in the 1920's, but they have not yet been fully solved. The natural consequence of America's creditor position would have been the appearance of an import surplus; but her manufacturing interests struggled against any tendency to an increase in imports, her agricultural interests were threatened with ruin by a fall in exports; in all the last thirty years there are not more than two (1931 and 1935) when an import surplus (of goods and services) has in fact occurred. Yet the balance of payments is inexorable; if a country has a favourable balance of payments (as America has had all this time), it must lend, or it must give, or it must import gold. During the nineteen-twenties America

endeavoured to lend; but conditions were difficult, her lending was unskilful, and (by 1929) her investors took fright. Then came the time when she drew gold—from the gold reserves of other countries, which were much scarcer than her own. The effects of this were catastrophic; but even with these catastrophic effects, the amount of gold which could be drawn was strictly limited; these therefore were the years in which America's favourable balance most nearly disappeared. In the nineteen-forties she has given, given on a scale which had never been seen in the world before. This is a better solution, but it can hardly be a permanent solution. The best way of solving the problem would still be the discovery of some means by which Americans could lend abroad, in a reliable way, for sound productive purposes; the international institutions referred to above may have some part to play in this, but the channels for such lending must be created for the most part (so one would think) by Americans themselves.

XIII

THE STATE AND THE NATIONAL INCOME

1. THE second set of qualifications to the fundamental equations of earning and spending relates to the economic activities of the State. The government of a nation is a particular part of the nation's organization; its primary function is to protect the community against internal disorder and external aggression To this primary function many other functions have in the course of time been added; but it is in the field of 'Justice, Police and Arms' (to use the language of Adam Smith) that a government's main responsibility still resides. Let us begin by considering some of the economic aspects of these central activities of government, and then pass on to deal with the other functions.

For the purpose of maintaining law, order, and defence, the State has to employ a large number of people (soldiers and sailors, policemen, judges, civil servants) and to purchase goods for them to use, goods which range from battleships to writing-paper. In order to cover its expenditure in these directions it raises taxes—that is to say, it levies compulsory contributions upon its citizens or subjects. How do we fit this revenue and expenditure of the government into our account of the earning and spending of the national income? The usual way of doing so is to say that the people who work for the government in these ways are working, like others, to satisfy the wants of the community; that when the government pays them their wages, it is acting as agent for its citizens, who are the ultimate employers, and whose contributions to taxation are therefore essentially similar to their ordinary spending. The suggested analogy is that of a voluntary association. When the secretary of a golf-course employs greensmen to keep the turf in order, he is acting on behalf of his members; the funds are provided by the members' subscriptions, and there can be no doubt that the subscriptions paid by members are part of their ordinary spending. It is perhaps a little dangerous to use this analogy for the case of the State and its taxes, since the State is a compulsory association, not a voluntary one. People have to pay

taxes whether they like it or not, and cannot easily protect themselves against what they consider unjust treatment by the State, simply joining another club instead. The problem of achieving some degree of fairness in the distribution of taxation among different people is much more urgent in the case of the State than the parallel problem is in a voluntary association. But the existence of this problem does not prevent us from regarding the taxes, which are levied to pay for the public services, as being economically analogous to club subscriptions.

There is, however, the further question: are the services which maintain order and defence to be regarded as services which satisfy the wants of consumers directly, or are they to be regarded as facilitating the production of other sorts of goods and services? If we accept the first alternative, then we must say that the public services are an additional part of the national product, which we have not reckoned previously; but if we adopt the second, then they are merely a part of the process of producing those same goods which we have previously taken into account. Now there would seem to be good reasons for supposing that the public services are partly one and partly the other.

The wicked millionaire, whose well-deserved murder has served as the theme of so many detective stories, often employs a private bodyguard; if we met such a case in real life, we should have no hesitation in saying that the wages paid to the bodyguard are part of the millionaire's consumption expenditure, just as much as the wages paid to his butler. Most of us are contented to satisfy our more modest wants for personal protection by relying upon the police and other governmental defence forces; it seems reasonable that our expenditure on this protection, through the taxes we pay, should be reckoned as a part of our consumption expenditure in a similar manner. But now consider the case of a firm, which (instead of trusting to the police to see that its goods are not stolen) employs a night-watchman; in this case the wages of the night-watchman are included as part of the cost of the firm's output. The services of the night-watchman are not treated as an independent part of the national product; they are included in the goods which the labour of the night-watchman helps to produce (by ensuring that the process of producing them continues without interruption).

One would suppose that when the public services perform similar functions to this they ought to be similarly reckoned; and there can be no doubt that to do so would be the ideal arrangement. If, as the result of an epidemic of shopbreaking, a local authority decides to pay its policemen to stay on duty for longer hours, are we to say that the social product has increased, because of the additional output of policemen's services? Surely it would be much more sensible to put it that the additional labour is needed to produce the same net output of useful goods. It would be much more sensible to put it like that; but it is unfortunately quite impossible to say how much of the work of the police and defence forces is directed towards the protection of life and liberty and personal possessions, and how much is concerned with the protection of the productive process. Being unable to draw a line, British statisticians have invariably decided to neglect the assistance given by the public services to the production of other goods; they treat the whole of the public services as direct services, ministering to consumers' wants in the same way as consumption goods do.

In practice there may be nothing else for it; but we ought to be aware that the solution is unsatisfactory, and to be prepared for some awkwardness in its consequences. The most notable awkwardness concerns the calculation of the national income in time of war. The expansion of the armed forces which takes place in war-time is an expansion of the public services; if we regard the public services as satisfying consumers' wants directly, we are obliged to regard the men who are in the armed forces or the munition industries as producing things which consumers are willing to accept as substitutes for the ordinary goods and services of peace-time. Thus, in spite of the reduced supply of peace-time goods, the nation is not shown to be appreciably worse off. The national income is not diminished. This way of looking at the situation might have some plausibility if it was applied to an aggressor nation, which willingly accepted guns for butter, and glory for cakes and ale; but the position of a nation engaged in a defensive war would surely be described better in another manner. If we were allowed to say that the import of goods from overseas is rendered more costly, not only because of the loss of ships from enemy action, and

because of the extra time spent in dodging submarines, but also because of the need for a large navy to ensure that these losses are not even greater; if we were allowed to say that the production of goods at home is rendered more costly, not only by the actual losses from air raids, but also because of the need for guns and aeroplanes to repel air attack; if we calculated the national income in war-time on this basis, we should find that the nation is much poorer in war than it is in peace, which surely corresponds much better with the facts. But we are not allowed to say these things, once we have agreed to treat the public services as a direct part of consumption; and so we must be prepared for the results we get.

2. The expenditure of the State on goods and services needed for the performance of the primary functions of government is therefore to be regarded as consumption expenditure; but it is so different from the ordinary consumption of private persons that we should always show it as a separate item. We may call it Public Consumption. The wants satisfied by such public consumption are collective wants, not individual wants; it is impossible to say how much advantage any particular individual gets out of it.[1] But the taxes which are raised by the government to meet this expenditure have to be divided up among individuals, and must be divided on some plan. There is no reason to suppose that individual contributions to taxation have ever had any relation to the advantage which public consumption confers on the individual—not even the very loose relation which exists between subscriptions to a club and advantages derived. The taxes paid by the individual cannot therefore be regarded as a part of *his* consumption expenditure, even when they are used to finance public consumption by the nation as a whole. We have to reckon taxation as an additional call on income. Instead of saying that income equals consumption plus saving, we must say that the individual's income equals

$$\text{Private Consumption} + \text{Saving} + \text{Taxation}$$

as is agreeable to common sense. Nevertheless, if all the taxes were used to pay for public consumption, we could regard the

[1] See above, p. 19.

taxation as being transmuted (at the next stage) into public consumption, just as saving is transmuted (in a closed economy) into net investment; so that the national income would still be spent, at the last round, on consumption and net investment—though the consumption would include public consumption as well as private.

3. In fact things are by no means as simple as this. We have quite a number of other State activities to fit into the picture, and they have to be treated in several different ways. Let us go through them in order, beginning with what are commonly called the 'social' activities.

Taxation itself is widely used at the present time for 'social' purposes—the rich being taxed at higher rates than the poor—but this does not affect the scheme set out in the preceding paragraph. The existence of progressive taxation reminds us that the tax system makes no attempt to allocate taxes in proportion to benefits derived from public consumption; but that is all there is to it. When, however, 'social' policy goes one stage farther (as it has done in Britain on an increasing scale during the last forty years), when it uses the proceeds of taxation as a means of supplying consumers with things which they might have bought out of their incomes, but which some of them would have been unable to afford, then we do have to take notice. 'Social' expenditure is a new complication which has to find a place in our tables.

But it is not a simple item, all of which can go into one place. It has to be divided, for our purposes, into no less than three separate headings. The first head, of which government expenditure on education is a good example, involves the purchase of goods and services by the government, just like the public consumption on our first list. The teachers are public servants, just like soldiers and policemen; the government (or local authority) buys paper for school-books just as it does for files. The only distinction is that the services of teachers are more identifiably for the benefit of individuals; they are similar in kind to the services of teachers at private schools, which some people still pay for, so that they are included in the personal consumption of those people. Thus it is not nonsensical to ask how the benefits

from social expenditure of this first sort are divided up, as it really is nonsensical to ask how the benefits from public consumption proper are divided. Social expenditure of this type is like personal consumption in some ways, but like public consumption in others. We might call it Semi-Public Consumption.

The other sorts of social expenditure cannot be treated in that way. Take the case of family allowances. The government pays out fixed sums every week in family allowances; this money is not paid in return for services provided; it has no relation to any contribution which the recipient may or may not be making to the social product, as we are reckoning it. Family allowances are an outpayment by the government which has no relation to services performed for the government; just as taxes are an in-payment to the government which has no relation to the services the individual taxpayer receives. Family allowances (and all other payments of a like kind, such as unemployment benefit) must therefore be treated as being, for our purposes, just like taxes—excepting that they go the other way. These 'transfer incomes', as it is customary to call them, are to be reckoned as *negative* taxes.

Transfer incomes are incomes, in a sense, but they are not part of the total of wages and profits. We therefore need, if we are to manage them comfortably, a further distinction. We must distinguish between 'incomes before tax and transfer' and 'incomes after tax and transfer'—or *Disposable incomes*, as the latter are called for short. In order to get disposable income from pre-tax income, we have to subtract taxes and add transfers. Thus the rich man, whose transfer income is negligible, has a disposable income which is less than his income in the ordinary sense by the taxes he pays. At the other end of the scale comes the unemployed family, which may have no income at all 'before tax and transfer', but which has a disposable income, since the transfers it receives are greater than the taxes it pays. The rule that income equals consumption plus saving holds without qualification as soon as we take income to mean disposable income.

The third sort of social expenditure is expenditure on subsidies, including both the housing subsidies which have been with us since 1920, and the subsidies on foodstuffs which are a legacy of the Second World War. Subsidies also are a negative

tax; they lower the prices of articles which are regarded as necessaries or of which the government desires to encourage consumption, just as taxation raises the prices of other articles (alcohol, tobacco, and many sorts of clothing and furniture). The fitting of these 'indirect' taxes into the accounts of the national income is rather a ticklish matter; it will be easier to explain it when we are dealing with a concrete case in the next chapter. Subsidies raise precisely the same difficulty as indirect taxes.

4. We have now provided pigeon-holes into which we can fit the greater part of government expenditure; but there are still some special sorts of expenditure which remain unaccounted for. Let us begin with the question of interest on the National Debt.

A large part of the extra expenditure which falls on governments in war-time is financed out of borrowing, not out of taxation; once we have decided to regard war expenditure as a part of public consumption, we are obliged to treat war borrowing as being analogous to a spendthrift's borrowing for consumption purposes. When the war is over, the government will find that it is left with a national debt on which it has to pay interest (most national debts are legacies of past wars); but no capital goods have been acquired by means of the war borrowing, so that there are no profits out of which the interest on the national debt can be paid, as is the case with the debts of firms. Extra taxation has to be raised each year to meet the interest on the national debt; and this extra taxation cannot be regarded, like the taxation raised to pay for the public services of the year, as a form of consumption expenditure, for which the State acts as the taxpayers' agent. Nor is it quite satisfactory to treat interest on national debt as a transfer income. This is how it used at one time to be treated; if we compare the case of war pensions, another hang-over from war, which are treated as transfer incomes (no *current* service being provided against them), it will be seen that the line between income from national debt interest and transfer income is a very thin one. Nevertheless, this is not the best way of reckoning it. To the recipient of national debt interest (who may be a private person, or a firm, or a foreigner)

it looks exactly like the interest on a commercial debt; he can, after all, sell his war loan and buy shares in a company at any time he likes. Thus it is tidier to treat it as nearly as possible in the way other interest payments are treated. Let us recall how we treated the interest payments of firms, in order that we may find a way of fitting national debt interest in on the same plan.

Before we began to consider these 'State' complications, we said that the net social product of a closed economy was equal to wages plus profits; that profits were partly paid out in interest and dividends, partly undistributed; and that the social income was therefore equal to the sum of personal incomes (wages plus interest and dividends) plus undistributed profits. Net social product equals social income. Now if we want to retain the equality between net social product and social income (as we certainly must do if we can), but have to find a place for the receipt of national debt interest in private incomes, we shall have to say that the national income equals

All personal incomes (including national debt interest received by persons)	+	Undistributed profits	—	National Debt interest paid out.

That is to say, while companies are left with a positive remainder (of undistributed profits) after paying out interest and dividends, the government has a negative remainder, which it subsequently covers by taxation. This is the arrangement to which we have to come. It looks curious, but it is consistent with what we have said before. It fits in with the picture shown on our national balance-sheet;[1] and it also fits in with the picture we got in the last chapter, when we had to allow for the way in which national debt interest may be paid *abroad*.[2]

5. All of the economic functions of government so far considered are related to the *spending* of the national income; we come finally to a group of activities which belong on the *earning* side. In the first place, there are the nationalized industries. Most of these industries are organized in corporations[3]

[1] See p. 109 above. [2] See p. 131 above.

[3] Public corporations of this type include the National Coal Board, the

which are formally similar to companies; though the government (in some sense) 'owns' them, and would presumably come to their help if they got into difficulties, the normal relation between the finances of most of them and the finances of the government is not much closer than is the case with an ordinary company. The profits which they make are not supposed to be greater—in the long run—than the sum needed to pay interest on their debts; but in a particular year they may earn more or less than what is needed to cover this interest (together with the taxation which they pay, just like other companies). Accordingly they may show a (positive or negative) undistributed profit. Nationalized industries of this sort can therefore be dealt with, sufficiently for our purposes, by the methods which we employed for other 'firms' in Chapter XI. From the present point of view, they create no problem.

It is otherwise with a second set of public undertakings, which could have been fitted into the corporation form, but have not been organized in that way. The Post Office is not organized as a public corporation, because it was nationalized long before the day when public corporations were first thought of, it has, however, been allowed to develop a little in that direction. The most important activity of the central government which comes under this head is the trading, in foodstuffs and raw materials, in which certain departments of government (especially the Ministry of Food and the Board of Trade) have been involved since 1939. If these latter activities are to remain functions of the State, it is very desirable that they should be organized as public corporations; the only excuse for leaving them as they are at present (1951) is that they will soon be returned to private enterprise—which is as it may be. In the meantime we find government accountants trying to treat these services (as well as other odds and ends of the same character) as if they were 'public consumption' of the ordinary sort. When the government buys meat, intending to sell it again, the cost of the meat is lumped in with other government expenditure, and the money people pay for the meat is treated as an offset against that cost. For national

British Electricity Authority, the British Transport Commission, the British Iron and Steel Corporation, the Gas Council, the three Airways corporations, the Raw Cotton Commission, and the Bank of England.

income purposes, this is not good enough. The only thing to do with this 'unorganized trading' is to treat it *as if* it were done through public corporations. Since it works under no rule about earning no profit in excess of interest in the long run, it is not surprising to find that the government earns an appreciable profit from some forms of 'unorganized trading'.

The special difficulty which arises out of unorganized trading is that we need extra information (which is, it is true, sometimes made available after an interval) to distinguish consumption from investment expenditure. If the Ministry of Food buys turkeys, which it does not sell but stores against a future Christmas, it is *investing*, just as a business is investing when it increases its stock of materials. An ordinary business is careful not to debit such investment expenditure against its ordinary output; unorganized public trading makes no such distinction.

Now it may be said, and should be said, that the distinction between consumption and investment expenditure has a bearing on other parts of the government's expenditure, even on that which we listed as 'public consumption' in the first place. We agreed to call expenditure on the services of teachers public consumption; but what about expenditure on building new schools? What about expenditure on building battleships and bombers? In all these cases, something is left behind at the end of the year, something which has presumably been judged to be useful by somebody, or it would not have been made. There is a case for classifying a distinctly large part of the government's expenditure as public investment.

Yet we must be careful how far we go. Suppose we classify the building of a bomber as public investment, on the ground that the bomber will still be there at the end of the year (or is meant to be). Then, to be consistent, we must allow for depreciation on bombers which have been inherited from past years, and reckon that as an addition to public consumption. We cannot have it both ways. On the whole, rather than let ourselves in for a lot of fanciful arithmetic, it is safer to do as we have usually done with the durable-use goods of the private consumer, calling their purchase consumption—except in a few very strong cases.

Unorganized trading by government departments is certainly one of these cases; if the government takes over a job which

would otherwise have been done by private traders, it makes for confusion if it fails to do its accounts in the same way. Another (perhaps even stronger) case is the housing activity of local authorities, which certainly requires proper classification as investment expenditure. How far we go beyond these clear cases is largely a matter of taste. There is much to be said for reckoning all government building and construction (of roads, for instance) as public investment—and letting it go at that. This seems to be more or less what is coming to be the accepted practice.

6. One final point. It should be emphasized that the government expenditure which has been considered in this chapter is not that of the central government alone. All public authorities, for instance local authorities, must be included. Local authorities raise taxes (local rates) just as the central government does, spending the proceeds in ways which can be classified under the various heads which we have been setting out. But local authorities do not depend on rates in the way that the central government depends on taxes. Half of their total revenue is derived from *grants*. These grants are transfers *from* the central government *to* the local authorities, so that when the two are taken together, as we have to take them for national income purposes, the grants cancel out. Grants from Whitehall to the Birmingham City Council are treated in the same way as payments from the Treasury to the Ministry of Labour. But in doing this we beg no questions about the independence of local authorities; the cancellation is performed in the same way, and for the same purposes, as we have agreed to cancel payments of interest from one company to another.

Another set of public bodies which receive large grants from the central government are the national insurance funds. The benefits provided by social insurance (pensions, sickness, and unemployment benefit) are financed chiefly by contributions, made in approximately equal amounts by all contributors,[1] but to a significant extent by grants out of general taxation. The cynical comment on these insurance schemes is that they are a

[1] Rates of contribution are distinguished by age and sex, and by employment or non-employment, but not by income.

means of making it appear that there is more social expenditure for the benefit of the less wealthy than there really is; it may be argued on the other side that the insurance device has a real social advantage, for it enables the beneficiary to receive his benefits as a right, and not as 'charity'. Psychologically this is important; but in a scheme where contributions are compulsory, and benefits may be varied at any time by government decision, the insurance element is in practice largely bogus. The realistic thing to do is to fit national insurance into the ordinary classification of government revenue and expenditure. We shall therefore regard the national insurance benefits as transfer incomes (or, in a few cases, as semi-public consumption); and shall treat national insurance contributions as a particular sort of tax.

XIV

THE BRITISH NATIONAL INCOME IN 1949

1. We have now reached a point where it will be useful to look at some figures, so as to see how the calculation of the national income comes out in a particular case. In the first edition of this book the figures chosen for this purpose were those of the British National Income in 1938, but 1938 is now a long time ago, and the modern reader may reasonably ask for something more up to date. The most convenient post-war year to take for illustration is the year 1949, after the post-war reconstruction was over and before the new economic troubles which began with the onset of war in Korea. The year 1949 did indeed have its own troubles, which culminated in the devaluation crisis of the September of that year; but the effects of devaluation had only just begun to appear at the end of 1949, and they did not prevent 1949 from being, on the whole, a steadier year than its neighbours.

A great many things happened between 1938 and 1949, and some things, which are very important for our purposes, happened in the field of national income statistics. All the work which was done on the national income of Great Britain before the Second World War was done by unofficial investigators. The first estimate which attained a modern standard of accuracy was made by Professor (now Sir Arthur) Bowley for the year 1911; it was followed by a further estimate, for the year 1924, by Bowley and Stamp. These classic investigations[1] were entirely based upon the income method,[2] and the series of estimates for the years 1924–38, which Bowley published in his *Studies in the National Income* (1942), and which remains one of the main sources of information about national income during the inter-war years, still used the income method alone[3]

[1] They have been reprinted in Bowley and Stamp, *Three Studies in the National Income* (London School of Economics reprints).

[2] See above, p 127

[3] Mr. J. R. N Stone's more recent estimates for these years have not been fully published. His totals are, however, given in A R. Prest, 'National Income of the United Kingdom, 1870–1946' (*Economic Journal*, March 1948).

Meanwhile, however, in 1937 Mr. Colin Clark had published his *National Income and Outlay*, which gave a series of estimates for 1924–35, using both the income and the production methods. In this work the difficulties inherent in the double approach were not wholly overcome, but Mr. Clark's investigations nevertheless did much to point the way for what followed.

A new epoch began with the appearance of the first official estimate of the British national income, in connexion with the budget of April 1941. This first estimate gave figures for 1938 and for 1940; an estimate for each of the succeeding years has been published in the following April. The 'hole' of 1939 was later filled in, so that we now possess a complete series of official estimates from 1938 to the present. These official figures are the basis for all contemporary discussion on the subject in Britain.

At the time when the first edition of this book was written, only two of these 'White Papers' were available; now there are more than ten. The information contained in them has been steadily increasing, so that the annual White Papers have now become accepted as one of the most important sources of economic information available in Great Britain. We shall draw heavily upon them throughout the remainder of this book.

It must be emphasized that an official estimate of the national income is only an estimate like other estimates. Its authors have advantages in the means of information open to them, but that is all. The 'White Paper' estimates are, however, important, not merely because they are official, but because their appearance marked a change of purpose. All that the unofficial estimators had sought to do was to get a global figure for the national income, and to show how it was divided up into incomes of various sizes and various sorts. Such information is very interesting in itself, and it still emerges out of the White Paper figures, but almost as a by-product. For the purpose of the White Paper is more ambitious; it is the preparation of figures which can serve as a guide, to the government and to Parliament, in the preparation of economic policy. For this wider purpose something more than a mere total, or a divided-up total, is needed; the object in view can only be attained by the provision of a set of accounts.

The basic figures which appear in a modern White Paper are indeed best regarded as a set of accounts—accounts for the

nation as a whole, which are exactly parallel to the accounts which a business organization gets out for its own purposes. The White Paper cannot be fully understood until it is looked at from the accounting point of view. The reader of this book will, however, find it convenient to start his studies of the subject in a simpler manner. The main results which can be got from a study of the national income in 1949 will be explained in this chapter in the simplest terms possible. In order to simplify it will be necessary to leave out some complications; thus anyone who tries to check this chapter against the official publication will not always find the check to be very easy going. If he wants to do a check, he had better begin with the additional Chapters XIX and XX, which explain the social accounting approach on a less elementary level.

2. According to the official figures,[1] the gross national product[2] of the United Kingdom is estimated for the year 1949 at £11,426 millions. There is a good deal of controversy about the right figure to deduct from this for depreciation;[3] the official figure is £1,027 millions, and in this place we have no choice but to accept it. Net National Product (Gross Product *minus* Depreciation) was therefore £10,399 millions. In order to get the national income from this,[4] we have to add the difference between income received from foreign assets and that paid out as interest on foreign debts. Now, in spite of the fact that Britain in 1949 was a debtor country (as we have seen), this difference actually ran a little in her favour. This was odd; it is to be explained by the facts (1) that interest on the American and Canadian loans of 1945–6 did not, by agreement, have to begin to be paid before 1952, (2) that the rates of interest paid on the rest of the overseas debt were very low, lower than those which were being earned on British assets overseas. A precarious situation! But it meant that in 1949 Britain was receiving a *net income* from foreign assets of £27 millions. In terms of the figures with which we are working, this is a small sum, much smaller than the corresponding figure before 1939. But it was something to be on the right

[1] White Paper on National Income and Expenditure (1946–50) published in April 1951 (Cmd. 8203). This is the latest White Paper available at the time of writing, and from it all figures are taken.

[2] See above, p. 135. [3] See Appendix, Note C. [4] See above, p. 135.

side. The national income, after allowance for this income from foreign assets, therefore comes out at £10,426 millions. The later digits are quite uncertain, and do not much matter. It will be sufficient for most purposes if the reader holds in his head a rough figure of (say) $10\frac{1}{2}$ thousand million pounds.

As we know, the net national product is the sum of wages and profits, each of these terms being understood in a suitably wide sense. In this wide sense, where wages means the whole earnings of labour, it will include what are reckoned in the official tables as wages, salaries, and the pay and allowances of the armed forces. Profits will include the trading profits of companies, and the rents of land and buildings. These headings are easily classified, but there are others which create more trouble. We shall subsequently lump the profits of nationalized industries in with other profits, but for the present they deserve separate mention. The profits of public 'unorganized trading'[1] will need watching. Then there are two difficult items, 'profits from farming' and 'profits of sole traders and partnerships'; these are called profits, but they are clearly not all of them profits in the sense of being earnings of capital. The earnings of the farmer from his labour, and of the small shopkeeper from his labour, are included under these 'profits' heads. It is therefore usual to put them into a separate bag, called 'mixed earnings'. Professional earnings, though almost all of them must in fact be labour earnings, are also reckoned by convention in the 'mixed' category.[2]

The division of the net national product into earnings of labour and of capital may then be summarized as follows:

	£ *millions*
Earnings of labour . .	7,021
Mixed earnings . . .	1,268
Earnings of capital:	
in private ownership . .	1,950
in public ownership	
(*a*) nationalized industries[3]	98
(*b*) 'unorganized' trading	62
Net National Product . .	10,399

[1] See above, p. 156

[2] The White Paper now reckons employers' contributions to national insurance as a share in the national product. It then follows that they must be regarded as a part of the earnings of labour, paid *on behalf* of the employee by the employer.

[3] I have included £14 millions which the White Paper gives as 'other

In percentages these are approximately: labour 67 per cent, mixed earnings 12 per cent., capital in private ownership 19 per cent, in public ownership 2 per cent. Allowing for the fact that an appreciable part of the mixed earnings must really be labour earnings, it seems safe to say that true labour earnings must have amounted to between 70 and 75 per cent. of the net national product in 1949.

3. This, it should be realized, tells us nothing more than the way in which the national product is divided between Labour and Capital on the *earning* side, in order to find out anything about the division on the *spending* side, in which most people are far more interested, we have to go a good deal farther. We proceed, as before, by steps. In the first place, we must distinguish between those company profits which are distributed to private persons (as dividends or interest payments) and those which are held back by the firms which have made them (undistributed profits). Since the nationalized industries (public corporations) also have to make interest payments, their profits must be divided up in the same way. But what about the remaining public profits? If we are allowing, at this stage, for interest payments by companies, it seems reasonable to allow for interest payments by government at the same time. This we shall do, even though (for reasons explained in the last chapter) interest payments by government swallow up far more than the remaining government profits.

Our next table accordingly shows the *National Income* (including the £27 millions of income from foreign assets) divided up into (1) personal incomes, (2) undistributed profits, (3) the *negative* 'income before tax' of the government. It should be understood that part of the national debt interest is paid directly to private persons, while part is paid to businesses (such as the banks). National debt interest paid to firms will be added to their profits (as already reckoned) and the total will be divided up between the shareholders and the 'kitty' of undistributed profits. We cannot follow through this process in detail; all we know is the result, which is as follows:

income' of public corporations, on the assumption that this must mainly consist of rent of land and buildings

National income before taxation

	£ *millions*
Personal incomes	
Incomes from labour earnings . .	7,021
Mixed incomes	1,268
Income from property (dividends, interest, and rents) .	1,458
All personal income	9,747
Business income	
Undistributed profits	1,129
Public income	
Public income from property *less* national debt interest . .	−450
National income	10,426

It can at least be seen that the total comes out right.

The total of *personal* incomes in this sense was £9,747 millions, about £700 millions less than the national income. Out of these *personal* incomes, just on 15 per cent. were incomes from property; even if we add a good slice of the *mixed incomes* to this, the share of property income in *personal income* will not come out much above 20 per cent.

4. But obviously we cannot stop at that point. It would really be nonsensical to do so, for we have left a yawning gap in the public revenue which must somehow be filled. And we know well enough how it is filled—by the imposition of taxes.

We now come to a difficult and awkward point.[1] The government imposes many sorts of taxes, and we cannot bring them into the accounts of the national income in precisely the same way. For this purpose, we have to distinguish three sorts of taxes. The first consists of the *direct taxes on income*, which have to be paid out of the incomes listed in the above table before it is possible for the taxpayer to reckon what is to be left to him for his own consumption or his own saving. Income tax is the most important of these direct taxes, but there are a number of others, such as profits taxes, and also the contributions to social insurance, which have got to be reckoned somewhere, and are most conveniently reckoned here. The second sort of tax is the

[1] Which was held over in the last chapter (p 153).

indirect tax, of which the tax on tobacco and the purchase tax are good examples. While direct taxes have to be paid out of income independently of consumption, indirect taxes are only paid as income is spent or consumed. Finally, there is a third class, taxes on capital, of which death duties are the most important instance. These taxes are only paid on exceptional occasions, and may be regarded as falling outside the ordinary earning and spending of the taxpayer's income.

It is best to take these three sorts of taxes into account one at a time. In the year 1949 £2,208 millions were due to be paid[1] to government, by persons and businesses, as direct taxes on income; a sum vastly more than sufficient, by itself, to cover the gap left by the payment of national debt interest. But when we are taking into account this direct *transfer* from persons and businesses to government, we ought to ask—are there not some similar transfers which go in the other direction, and which ought to be allowed for at the same time? It at once appears that there are. We are reckoning social insurance contributions among the direct taxes, what about social insurance benefits? They are nothing else but the other side of the same transaction. Social insurance benefits are, however, only one of a large class of payments from the State to individuals, payments which result in 'incomes' that are not earned, even in the sense that profit incomes are earned. They do not arise out of the production of the social output, but are transfers of income, which has been collected by taxation, from the State to the person benefited. These *transfer incomes* (which include war pensions and scholarships, in addition to social security benefits) have not previously been reckoned into our tables; but when the subtraction of direct taxation from some incomes is taken into account, the addition of transfers to other incomes should naturally be reckoned in at the same time.

Our next table accordingly shows the effect of direct taxes on income and the effect of transfers. The first column (repeated from the previous table) shows incomes before tax or transfer. The second column shows the additions and subtractions by

[1] Almost exactly the same sum *was* paid, in this particular year. For a discussion of the difference between tax liability and actual payment, see below, pp. 240–1.

transfer and tax. The third shows the resulting amounts which people have actually available for spending and saving—we call them Disposable Incomes.

TABLE VI

The Effect of Direct Taxes and Transfers (£ millions)

	Income before tax or transfer	*Tax or transfer*	*Disposable income*
Personal incomes			
From labour earnings .	7,021	−910	6,111
Mixed incomes . .	1,268 }	−649	2,077
From property . .	1,458 }		
Transfer incomes . .	·	+737	737
Total personal incomes	9,747	−822	8,925
Other incomes			
Undistributed profits .	1,129	−649	480
Public income . .	−450	+1,471	1,021
Total income . .	10,426	0	10,426

It will be noticed on going through this table that it does not tell us one thing we should very much like to know. The authors of the White Paper have made an estimate of the distribution of income taxation between labour incomes, on the one hand, and property incomes (*including mixed incomes*) on the other hand. Even this estimate can only be a rough one; the further division, between property incomes and mixed incomes, they have been unwilling to risk. Can we make a guess at it? If the taxation was divided proportionately between property incomes and mixed incomes, the amount paid by property incomes would come out at £348 millions, so that the disposable income left out of the personal incomes from property would be £1,110 millions and the disposable income left out of the mixed incomes would be £967 millions. It may be that the true division of disposable incomes should be more equal than this. It does not seem likely that the disposable income coming out of personal property incomes can be greater than £1,110 millions; and we can rely upon this figure as giving us, at least, the right impression.

Assuming this figure to be right, the percentage of all disposable incomes accruing to incomes from property would lie

between 12 and 12½ per cent. This compares with the 15 per cent. which was attributable to the same group before we allowed for the effects of taxation. Put in this way, the difference may not seem to be very large. But when we remember that quite a large proportion of all property incomes goes to people who are not at all wealthy (retired people living on their savings, and such like), we shall see that taxation *of the wealthy* cannot be expected to reduce the share of property income in disposable income to an enormous extent. Properly considered, the reduction from 15 per cent. to 12 per cent. is a big effect.

If we took undistributed profits into account as well, the proportionate reduction would be even greater. Personal income from property *plus* undistributed profits accounted for 24 per cent. of all private income (personal income *plus* undistributed profit) before tax; on the side of disposable income it accounted for less than 17 per cent. of the corresponding total. The big figure for undistributed profits before tax is very largely 'phony'; government uses the undistributed profits of firms as a very convenient and easy means of collecting taxes.

5. Now, before examining the other sorts of taxes, it is time to say something about saving. The undistributed profits of businesses, which remain after taxation, are of necessity saved; the disposable income of persons is available for consumption or for saving. Just what proportion of the £8,925 millions was actually saved it is not at all easy to say; personal savings can only be estimated indirectly, and no great reliance can be placed on the result. The official figure for personal saving is £358 millions. This is less than the disposable undistributed profits of businesses, so that (as is usual in these days) personal savings were less important, to the nation as a whole, than undistributed profits as a source of saving. Personal saving, according to this figure, was about 4 per cent. of disposable personal income. This doubtless conceals very different proportions in different social classes and from incomes of different sorts. We have no means of knowing what proportion was saved out of disposable incomes from labour and property respectively. (It is safe to assume that hardly any of the transfer incomes would be saved.) In default of information, it seems reasonable to assume that

consumers' expenditure out of labour and property income would be divided in much the same proportions as disposable income was distributed. Something very odd would have to happen to the distribution of savings if this was not the case.

Consumption out of property incomes can therefore be put at something like 12 per cent. of all consumption. But this is what comes out of property incomes in the narrow sense, not including the mixed incomes. The mixed incomes might account for another 11 per cent. But it is likely that saving out of mixed incomes is higher than saving out of other incomes, while an appreciable part of the mixed incomes are labour incomes in disguise. Taking these things into account, it seems very unlikely that the share of consumption to be attributed to property incomes—in the wider sense—can be higher than 20 per cent. The best estimate would probably be a bit lower.

We have now accounted for personal saving, and for business saving (undistributed profits). But what about public, or government, saving? There were some large savings due to the government in the year 1949; but we cannot fit them into our tables until we have faced up to the difficulties raised by the other forms of taxation.

6. We begin with the indirect taxes. A large part of the price of such goods as cigarettes is really tax; when a person buys cigarettes he is buying consumption goods and paying taxes at one and the same time. In the case of a taxed article, the price paid by the consumer is greater than the price received by the producer by the amount of the tax; the opposite phenomenon occurs in the case of a subsidized article, where the price paid by the consumer is less than the price received by the producer by the amount of the subsidy. In the calculations we have made up to the present, consumers' expenditure has been reckoned, as it is natural to reckon it, in terms of the prices the consumers actually pay; but the value of the social output has been reckoned, as it is natural to reckon it, in terms of the prices producers receive. Each of these ways of reckoning looks perfectly sensible in itself, but the presence of indirect taxes and subsidies means that the results we get from them do not square. No wonder that we have been unable to find a place for indirect taxes and

subsidies in our tables. Until we have adopted a consistent system of reckoning they are bound to slip through our fingers.

There are, in principle, two alternative ways of dealing with the difficulty. One (which is the easiest statistically) is to re-define the national product as the value of the goods and services produced during the year, *valued at the prices people actually pay for them*. Since the value of indirect taxes, as a whole, is greater than the value of subsidies, the net national product, measured in this way, will be greater than the earnings of the factors of production. There will be a corresponding measure of the national income, got by adding income from foreign assets, as before. It is called *National Income at Market Prices*.

In the year 1949 the total government revenue from indirect taxes was £1,999 millions, while £519 millions was spent on subsidies. Thus the national income at market prices was equal to the £10,426 millions, previously reckoned, *plus* £1,480 millions (the difference between indirect taxes and subsidies). Thus the national income at market prices was £11,906 millions.

The national income at market prices can of course be divided up in exactly the same way as we have done in our earlier tables. The only difference which will be made to Table VI is that an additional £1,480 millions of public income will have to be included throughout. Personal incomes and business incomes, as shown in that table, will be unaffected, but disposable public income will have to be marked up from £1,021 to £2,501 millions.

Now just as we went on to divide up personal disposable income into consumption and saving, so we can at this point divide up the disposable income of the government into public consumption and public saving. Public consumption, as defined for this purpose, will include what we have called 'semi-public' consumption,[1] but not other forms of public expenditure; expenditure on subsidies, and the expenditure which goes to provide transfer incomes, have already been taken into account. Nor, for the reasons explained in the preceding chapter, should it include such public expenditure as we decide to regard as *investment*. The value of the public expenditure which the authors of the White Paper consider to be reckonable as public

[1] See above, p. 152.

consumption, after these deductions have been made from the total, amounted in 1949 to £2,039 millions.

The following table brings these figures together, and shows how disposable income at market prices was divided between consumption and saving.

TABLE VII

Consumption and Saving (at Market Prices) (£ millions)

	Disposable income		*Consumption*	*Saving*
Personal income		8,925	8,567	358
Undistributed profits		480	..	480
Public income:				
Before tax	−450			
Direct taxes minus transfers	1,471			
Indirect taxes minus subsidies	1,480			
Total public income		2,501	2,039	462
Total		11,906	10,606	1,300

Thus in this sense approximately 11 per cent. of the National Income was saved.

What happened to these savings? We already know, from our previous discussion, what must have happened to them; all that remains to be done is to identify the figures. Saving must either be devoted to net investment at home, or must be lent abroad. In the year 1949 net lending abroad (after allowance for international gifts, such as Marshall aid) comes out at £30 millions. The balance of £1,270 millions is therefore equal to the value of net home investment.[1] If we add on to this the £1,027 millions of depreciation, we get £2,297 millions of gross home investment—the value of the new fixed capital goods produced, plus the increase in working capital and stocks. In this way, along this route, the whole thing comes out.

7. So far, so good. But this method, although it gives a tidy result, has only done so by what may quite properly appear to

[1] It should be noticed that this figure for net home investment includes public investment (chiefly local authority housing). The subdivision of this investment figure will be discussed in Ch. XXI (p. 260).

the reader as something of a trick. The government has been shown as receiving revenue from a source which admittedly comes out of the national income, in the sense in which that has been defined for the purpose of the foregoing calculation, but which does not appear to come out of the pocket of anyone in particular. It must be admitted that in doing this, the calculation 'at market prices' gives a misleading impression. When the government imposes a tax on (say) tobacco, it does not conjure revenue out of the air; it imposes a tax, which is paid, and which it intends should be paid, by the consumers of tobacco and cigarettes. Can we rearrange the tables so as to show the spending of the national income in this, as it seems, more sensible manner?

The only way of doing so is to adopt the second alternative, which we put on one side a little while back. We must value the national product at the prices producers receive, just as we did to begin with. This value of the national product is called (to distinguish it from the other) national product at factor cost; the corresponding value of the national income is national income at factor cost. But if we use this measure, we must be consistent in our use of the factor cost valuation. We must, in particular, measure personal consumption expenditure, not at the prices consumers pay, but at the prices which producers (and traders) receive for the goods which are bought. We must (that is) reckon personal consumption at factor cost, while the difference between consumption at factor cost and consumption at market prices must be shown where it belongs, as an additional tax paid by consumers and passing from the disposable incomes of consumers to the disposable income of government.

The rearrangement which follows from this decision would be fairly simple, if it were not for one snag. Not all of the indirect taxes which are levied by government fall upon goods which are purchased by British consumers during the year; part falls on investment goods, part (rather unintentionally) on exports, and part (still more unintentionally) upon goods purchased by the government itself. (Petrol, for instance, used by automobiles in government employ pays petrol tax.) It is necessary to separate out the shares of the revenue from indirect taxes which come from these four sources. That can be done, at least roughly; an estimated division is shown in the White Paper.

The share of indirect taxes (net of subsidies) which is estimated to have been paid by personal consumers in Britain amounted in 1949 to £1,346 millions. Thus, *at factor cost*, the spending of personal incomes comes out as follows:

	£ *millions*
Personal consumption at factor cost .	7,221
Indirect taxes (*less* subsidies) . .	1,346
Direct taxes (*less* transfers) . . .	822
Saving	358
Personal incomes before tax or transfer .	9,747

On this way of reckoning, which is a sounder way of reckoning, the proportion of personal income paid in (net) taxation was not 9 per cent., as appeared when (net) direct taxes alone were taken into account, but 22 per cent. If we also leave out of account the subsidies and transfers, the gross taxation on personal incomes from work and property amounted to no less than £3,511 millions, or 36 per cent.—a very high figure indeed.

It is impossible to say at all firmly how the payment of indirect taxes should be divided up among incomes from work and from property. But no reasonable guess would give a distribution of consumption at factor cost which was very different from the distribution of consumption at market prices previously calculated.[1]

Public consumption at factor cost must also be written down (a little) to allow for the taxes the government pays to itself. The spending of the national income at factor cost can thus be divided up as follows:

	£ *millions*
Personal consumption . . .	7,221
Public consumption . . .	2,012
Saving	1,193
National income at factor cost .	10,426

Thus in this sense a little more of the national income was saved, $11\frac{1}{2}$ per cent. as against 11 per cent.

The difference between the figure for saving which we get in this way, and that which we got from the market price calculation, is to be explained by the indirect taxes falling on investment (£68 m.) and on exports (£39 m.). As things were in 1949,

[1] See below, p. 258.

the indirect taxes on exports very nearly offset the £30 millions of net foreign lending;[1] so that the saving, shown above, is approximately equal to the net home investment at factor cost (£1,202 m.). Thus we can say that about 11½ per cent. of the national income at factor cost was invested at home.

8. In all this discussion we have said nothing about the third sort of taxes—taxes on capital, such as death duties. The fact is that we have not needed to attend to them. Taxes on capital do not affect the earning and spending of the national income, which has been our concern. The only way in which our tables might have created a wrong impression, as a result of this neglect, would have occurred if the reader had drawn a conclusion from them, which we were careful not to draw. The division which we have made between personal and business savings on the one hand, and public savings on the other, does show what sums persons and businesses were setting aside out of their incomes in order to increase their assets or reduce their liabilities, and what sums the government was setting aside for the same purpose. But it does not necessarily show the effect of the savings on private and on public property respectively. For if the government imposes taxes on capital, it in effect takes away some of the private savings and adds them to its own savings (private savings are used up in the purchase of assets sold in order to pay the taxes). The government must save the proceeds of these taxes, since all government expenditure out of income has already been allowed for. Thus the total of saving is unaffected; only its effect on the growth of private and public property may be different from what appears.

In fact, however, so far as the year 1949 is concerned, there is not much in all this. For though capital taxes of about £250 millions were imposed in 1949, they were largely offset by other payments of very similar amount going in the other direction. The chief of these was Compensation for War Damage (to buildings and other property). This has taken a long time to settle up, and payments under this head have gone on being made for a long time since the war. Thus it so happens that the

[1] For further discussion of the relations between these two magnitudes, see Ch. XXI below.

distribution of saving shown above does correspond pretty well to the additions being made to private and to public property respectively. But this is an accident, which would not ordinarily happen.

9. The account of the national income which has been described in this chapter may well seem quite complicated enough, but even so it has left out quite a number of minor difficulties. What has been given is as much as the reader can be expected to swallow at this round. If he wants more, he can turn to the additional chapters at the end of the book. What he will there find is an attempt at a consistent plan, into which the difficult points can be systematically fitted. He will also find a discussion of the changes in the national income accounts between a pre-war and a post-war year. Comparisons of this sort are one of the most significant ways of using these calculations.

XV

THE NATIONAL INCOME IN REAL TERMS—INDEX-NUMBERS

1. The national income consists of a collection of goods and services, reduced to a common basis by being measured in terms of money. We have to use the money measure because there is no other way in which a miscellaneous collection of different articles can be added together; but when we are seeking to compare the production (or the consumption) of one year with that of another, the use of the money measure may lead us into difficulties. A change in the money value of the national income may be due to a real change in the amounts of goods and services at the disposal of the community; but it may be due to nothing more than a change in money values. If exactly the same quantities of goods were produced in one year as had been produced in another, but in the second year prices were all 25 per cent. higher, the money value of the national product would be increased by 25 per cent.—but this increase would have a very different significance from that of an actual increase of 25 per cent. in the production of goods and services. An increase of 25 per cent. in the *real* output of goods and services would be an economic gain of tremendous significance; an increase of 25 per cent. in money values, without any increase in real output, would not represent any economic gain at all. Before we can proceed with our discussions, we must learn something about the means which are available for separating these two sorts of changes from one another.

It must be emphasized, in the first place, that no perfectly satisfactory method of separation exists. If a change in prices meant a change of all prices in the same proportion, it would be easy to correct for the change in prices; we should simply adjust all prices by the same uniform percentage, and we should then be able to proceed as if no change in prices had occurred. Alternatively, if when the outputs of goods increased or diminished, the outputs of all goods and services increased or diminished in the same proportion, it would then be perfectly

clear what the percentage change in real output had been; we should find it easy to avoid being entangled in changes of prices. In practice these conveniently simple cases never occur. Between one year and another the outputs of some goods increase, those of others diminish; the prices of some goods increase, those of others diminish; even if (as sometimes happens) the prices of nearly all goods increase together, or diminish together, they increase or diminish by very different percentages. We are therefore reduced to makeshifts. It is a very delicate matter (which lies far outside the scope of this book) to distinguish the respective merits of the different makeshifts which are commonly used. Here we can do no more than indicate their general character.

2. The simplest way of estimating the *real* change in output which takes place from one year to another is to take the different quantities of goods and services produced in the two years and to value each year's quantities at the *same* set of prices. The value of the output of 1950 is ordinarily got by valuing the goods produced in 1950 at the average prices ruling in 1950; the value of the output of 1951 is got by valuing the goods produced in 1951 at the prices of 1951. If we compare these *money* values, we are confronted with a change which is partly due to real changes in output, partly due to changes in prices; but if we use the 1950 prices throughout, the relation between the figures we shall then get will cease to be influenced by changes in prices, but will only reflect the changes in the quantities produced.

For the years 1950 and 1951

$$\text{Ratio between money values of output} = \frac{(\text{Quantities } 1951 \times \text{Prices } 1951)}{(\text{Quantities } 1950 \times \text{Prices } 1950)}$$

$$\text{Ratio between real values of output} = \frac{(\text{Quantities } 1951 \times \text{Prices } 1950)}{(\text{Quantities } 1950 \times \text{Prices } 1950)}.$$

The brackets mean that the quantity of each good produced is to be multiplied by the average price of that good during the year stated; and the values thus arrived at for the outputs of different goods are to be added together.

The formula thus given for the ratio between the real values is got by using the *prices* of 1950 in both the top and the bottom of the fraction; but there is no particular reason why we should have selected 1950 as our *base* (as it is called) rather than some other year; the important thing is that the prices (but not the quantities) should be the *same* in both top and bottom. If, instead of valuing both top and bottom at the prices of 1950, we had valued both at the prices of 1951, we should have got a different formula for the ratio between the real values; there is no obvious reason why one of these formulae should be better than the other. Fortunately, in nearly all cases where an experiment has been made, it is found that the two formulae do not differ very seriously[1] Either can therefore be used as a measure of the change in real value; it does not matter very much which we use.

It is even permissible, provided sufficient care is taken, to use for valuation the prices of some third year, which is different from either of the two years being compared. Thus it may be convenient, when we want to trace the movement of the real national income over a period of years, to select some particular year as base, and to keep it as base throughout the whole of the calculation. When calculating the movement of the real national income between 1920 and 1940, we might select 1930 as base, and use the prices of 1930 for valuing all the goods and services produced in any of the twenty years. This sort of thing is often done, and there may be no harm in it; but it is rather dangerous. A great deal can happen in twenty years; the circumstances of one year may differ so considerably from those of another year ten years later that the different measures of real income, which would be got by selecting different years (out of the set of twenty years) as bases, might easily differ very considerably. It would be obviously absurd (to take an extreme case) if we tried to compare the real national income of England in 1700 with that in 1800 by using the prices of 1900 as a basis of valuation; indeed, it is doubtful if there is any basis of valuation which would enable us to make a useful comparison between the real incomes of two years a century apart. Comparisons of the kind we are

[1] There are mathematical reasons why this should be so (cf. Bowley, *Elements of Statistics*, pp. 87–88).

discussing are sound and sensible if the circumstances of the two years we are comparing, and the circumstances of the base year, are not too dissimilar; but when there has been a great change in circumstances, as may sometimes happen even with years which are close together (1938 and 1940 may be a case in point), any kind of comparison needs to be made with great circumspection.

3. This is the principle of the method which is used for comparing real income and real output between different years. Even in principle the method is rather a makeshift; in practice we cannot do even so well as this, at least as a general rule. For although we can acquire, in one way or another, the information which is necessary for calculating the national income valued at the prices of its own year, we do not usually possess the detailed information about the prices and quantities produced of different articles separately, which would be necessary in order to calculate the value of one year's output at the prices of another year. So we are obliged to have recourse to indirect methods. The principle of these indirect methods is the following.

Take the formulae for the ratios of money values of output and of real values of output (between 1950 and 1951) which were set out on a previous page and divide one by the other. The denominators of both fractions are the same and so they cancel out. Thus we get:

$$\frac{\text{Ratio between money values}}{\text{Ratio between real values}} = \frac{(\text{Quantities } 1951 \times \text{Prices } 1951)}{(\text{Quantities } 1951 \times \text{Prices } 1950)}.$$

The fraction on the right of this new equation has the same *quantities* top and bottom, but different *prices*. It is therefore a measure of the ratio between the levels of *prices* in 1950 and 1951. So we may write:

$$\text{Ratio between real values} = \frac{\text{Ratio between money values}}{\text{Ratio between price-levels}}.$$

If we can find a way of measuring the ratio between the price-levels, the ratio between the real values can be easily calculated from this last formula.

A really satisfactory measure of the ratio between the price-levels would of course involve just that knowledge of actual quantities produced, and actual selling prices, which we do not possess. But a rough measure can be reached in other ways What we need is a measure of the average change in prices which has taken place between the two years. Such measures are called index-numbers.

Index-numbers of prices are put together in what is substantially the following way. We take a particular collection (or 'basket') of goods, so many loaves of bread, so many pounds of sugar, so many pairs of socks, so many ounces of tobacco (and so on);[1] we inquire how much it would have cost to purchase this basket of goods in the year chosen as base, and how much it would have cost to purchase the same basket of goods in the other year. The ratio between these sums of money is a measure of the average change in prices between one year and the other.

Suppose the cost of the basket was 25*s.* in the first year and 28*s.* in the second. The ratio is then $28/25 = 1{\cdot}12$. It is convenient in practice to write this multiplied by 100 (in order to avoid unnecessary writing of decimal points); so we say that the index-number of prices in the second year (with the first as base) is 112. The index-number in the base year must of course be 100.

Every index-number of prices is based upon a particular *basket*; but of course if we take a different basket we may get a rather different index-number—a rather different measure for the relative change in prices. The ideal basket for the purpose of comparing real national incomes would contain all the goods and services contained in the national income, and would contain them in much the same proportions as they are contained in the national income itself, but we cannot secure in practice anything better than approximations to this ideal basket. We are now in a better position in this respect than we were a few years ago; there has been a good deal of research in the direction of improving the basket. But the difficulties are formidable, perhaps more formidable now than they would be in more 'normal'

[1] It is important that the *qualities* of these goods should be as similar as possible in the two years.

times; even the best index-numbers which we possess are no more than moderately satisfactory.

4. The method of calculating an index-number which is employed in practice is slightly different from that which we have described, though it comes to identically the same thing. The situation in the base year is first examined, and the proportions of the total cost of the basket which are due to each of the separate articles are first calculated. These proportions are called *weights*. A simple example is set out in the table below. The basket is supposed, for simplicity, to contain only three sorts of goods, in the stated quantities. If the prices in the base year are as stated, the total values of these amounts can be calculated by multiplication, and the total value of the whole basket by adding up the value column. Dividing each of the separate values by their total, and multiplying by 100, we have the weights.

	Quantities	*Base year Prices*	*Total values*	*Weights*
Bread	9 loaves	4*d.* per loaf	9×4*d.* = 3*s.*	100×3*s* /7*s.* 6*d.* = 40
Milk	6 pints	3*d.* per pint	6×3*d.* = 1*s* 6*d.*	100×1*s* 6*d.*/7*s.* 6*d.* = 20
Beef	3 lb	1*s* per lb.	3×1*s.* = 3*s*	100×3*s* /7*s.* 6*d.* = 40
			7*s* 6*d*	100

Now pass on to the other year which is to be compared with the base year. Suppose that in this other year the prices of the three articles were as set out in the second table which now follows. If we recalculated the total value of our basket at the new prices, we should find that it came out to 7*s.* 10½*d.* The required index-number of price change could be calculated directly by dividing this sum by 7*s.* 6*d.* But when there are a large number of different articles in the basket, and particularly when it is desired to calculate a whole series of index-numbers for different years on the same base, it is usually more convenient to reach the same result in a different way. We reckon what is the proportionate change in the price of each of the articles between the two years, expressing this in the form of a separate index-number for each article. Then we multiply each of the separate

index-numbers by its corresponding weight, add up, and divide by 100.

Second year	*Prices*	*Separate index-numbers*	*Separate index-numbers × weights*
Bread	3½*d* per loaf	3½/4 × 100 . 87 5	87 5 × 40 = 3,500
Milk	3½*d*. per pint	3½/3 × 100 . 116 7	116 7 × 20 = 2,333
Beef	1*s*. 2*d* per lb.	14/12 × 100 .. 116 7	116 7 × 40 = 4,666
			100)10,500
			105

Whichever method of calculation we employ, the cost of purchasing the basket has risen by 5 per cent. between one year and the other, so the index-number of the second year (on the first as base) is 105.

5. The most famous of all British index-numbers is the cost-of-living index which used to be published by the Ministry of Labour. The basket of goods on which this index was based was supposed to be that consumed in a week by a representative working-class family. It thus appeared to be of fundamental importance; the prices whose movement it claimed to summarize are the important prices for the well-being of the bulk of the population; it should have covered a large part of the field which would be covered by the ideal index which we should desire to have for measuring the national income in real terms. But it was not, at least in its latter years, altogether what it seemed; it has now been scrapped and replaced by another index.

The cost-of-living index had a very curious history. As long ago as 1904 the government began to prepare an index-number of food prices; investigations were made into the quantities of different foodstuffs consumed by a normal working-class family, and a standard basket was defined as a result of these investigations. This basket, containing food only, was used for calculations between 1904 and 1914. But after the outbreak of war in 1914 it was decided that a wider index-number was needed. Estimates (not based on the same detailed inquiry into the facts) were made of the probable consumption of such things as clothes, house-room, entertainments, and so on; these things were then added to the 'basket'. The 'basket' thus put together went on being used until 1947. The cost of living, as published,

was expressed as a percentage rise in prices since 1914, so the base appeared to be 1914, but the real base was information about 1904 for the food items, and less secure estimates about 1914 for the non-food items. It would not have been surprising if an index-number with this queer and remote base had been seriously out of date by the nineteen-thirties; the government therefore decided to have a new inquiry made into working-class expenditure, so that a new index could be constructed. The inquiry was made (in 1937–8) and its preliminary results were published,[1] but the appearance of the new index was postponed by the outbreak of war. Accordingly, during the war, the old index-number went on being used, but in war conditions it had results which can only be called preposterous. It is quite probable that it had not been seriously misleading up to 1939; in 1937–8 it stood at 157 (a rise of 57 per cent. above 1914) while calculation showed[2] that an index based on the basket which emerged from the 1937 inquiry would have stood at 159. During the war things got far worse. Since the basket used in the official index had become quite inappropriate to present-day consumption, the government discovered that it was much cheaper to stabilize (by subsidies) the prices of those things which were included in the official basket, than it would have been to stabilize the true cost of living as a whole. Being unable to control the temperature, they controlled the thermometer! For other than political purposes, that made the thermometer useless; we can here make no use of the official cost-of-living index after 1940 is passed.

There is no doubt at all that prices have risen very greatly during the nineteen-forties; but the exact extent of the rise is not at all easy to measure. There are two special difficulties. One is the decline in the quality of goods which occurred during the war, and in some cases persisted long afterwards; the other is the rationing system, which makes it rather nonsensical to inquire into the cost of purchasing a 1938 (or 1914) basket, since the quantities of some of the goods in that basket would be quantities

[1] *Ministry of Labour Gazette*, December 1940 and January–February 1941.

[2] The calculation was made by Professor Bowley in the *Review of Economic Studies*, June 1941, p. 134. The small divergence is certainly remarkable. It is a tribute to the fool-proof character of these index-numbers—when no one is monkeying with them.

people were not allowed to buy. For these reasons, when at last the 1938 basket came into official use (in 1947), statisticians had little confidence in it; the new index is called an 'Interim Index of Retail Prices', and it is intended that it shall be replaced by one which would be more suitable for post-war conditions, as soon as may be. No official 'join-on' between the old index and the new has been made. In order to have an idea of the way prices have been rising during the nineteen-forties we have to rely on scraps of information. These have been put together into an unofficial index,[1] that is widely used for lack of a better. It is this unofficial index which is used for the years 1940–7 in Chart III below.

6. Both the cost-of-living index and its successor are index-numbers of retail prices—that is, of the prices people actually pay in the shops. A retail-price index-number is nearer to the index which we need for the purpose of turning the national income into real terms than the alternative sort of price-index, which is an index of wholesale prices, of the prices at which firms sell goods to one another. The consumption part of the national product ought undoubtedly to be valued at retail prices, not at wholesale.[2] The investment part is very difficult, as no one has ever succeeded in producing a tolerable index-number of the prices of fixed capital goods; the sorts of buildings and machines produced in one year always differ to a considerable extent from those produced in the next, so that it is impossible to conceive of a standard 'basket'. The only part of the national product to which a wholesale price index could properly be applied is the net investment in materials and in working capital; but this is never more than a small part of the total, and is sometimes a minus quantity. Thus a wholesale price-index can never give us much help towards the construction of an ideal index-number for the measurement of the national product (or national income) in real terms.

[1] Index published by the London and Cambridge Economic Service.

[2] This is obviously true if we are valuing at market prices, for then we want the prices the consumer pays. Even when we are valuing at factor cost, we still do not want to use wholesale prices, which make no allowance for important elements in factor cost, such as the distributor's profit. Factor cost is nothing else but *retail* price adjusted for indirect taxes and subsidies.

All the same, index-numbers of wholesale prices have their own interest; while we are on the subject, something may usefully be said about them. There are several index-numbers of the prices of particular classes of goods (imported goods alone, and exported goods alone, for instance); but the principal index-number of British wholesale prices *in general* has long been the Board of Trade index,[1] which is based upon the relative importance of different articles as they appear in the Census of Production. This gives quite a sensible basket, and it is frequently revised so as to be kept up to date. Thus, for its own purposes, the Board of Trade index gets high marks as an index-number.[2]

The movements of the retail-price index[3] and of the Board of Trade wholesale index between 1915 and 1951 are shown on the following chart. Thirty-six years is a long time to cover in such a comparison, so that we must be careful in the conclusions we draw from it, but the lessons we can draw from looking at the experience of the two wars side by side are so instructive that it is worth while taking a few risks. The two index-numbers have been drawn on such a scale as to make the average of each over the fairly quiet years 1924–9 equal to 100. (It is safe to assume that the two indexes would also have been quite close together, at about 65, in the years just before 1914.)

First of all, it will be noticed that the two indexes usually move in the same direction, but that the wholesale index is more 'sensitive'—its movements are more violent. It is everywhere the usual experience that wholesale prices are more sensitive than retail; there are a good many reasons for this, one of the simplest

[1] Available every month (like the index of retail prices) in the *Monthly Digest of Statistics*.

[2] The method used for calculating the Board of Trade index is not precisely the same as that we have described. Instead of being an arithmetic mean of the changes in prices considered, this index is a geometric mean. It is claimed that there are some advantages in this when the basket is to be changed frequently, so that the change in prices between (say) 1930 and 1940 is got by separate calculations of year-to-year changes which are *multiplied* together, on the other hand, the geometric mean has less direct economic sense than the arithmetical mean. As this book goes to press (1952) it is announced that the old Board of Trade index will soon be discontinued, and will be replaced by a set of index-numbers for the different classes of goods contained in the old index. The new index-numbers will be of the arithmetic, not the geometric, type.

[3] Cost-of-living index 1915–40, London and Cambridge index thereafter.

being that wholesale prices are more directly affected by such disturbances as harvest fluctuations. The price of apples (say) to the final consumer equals the wholesale price plus an extra (often a large extra) to cover the costs of transport, marketing, and final sale; if there was a great over-production of apples, the wholesale price might be halved, but much the same extra would still be added for selling costs, and so the retail price might not fall by more than a quarter. Wholesale prices are also affected, much more directly than retail, by those instabilities in the

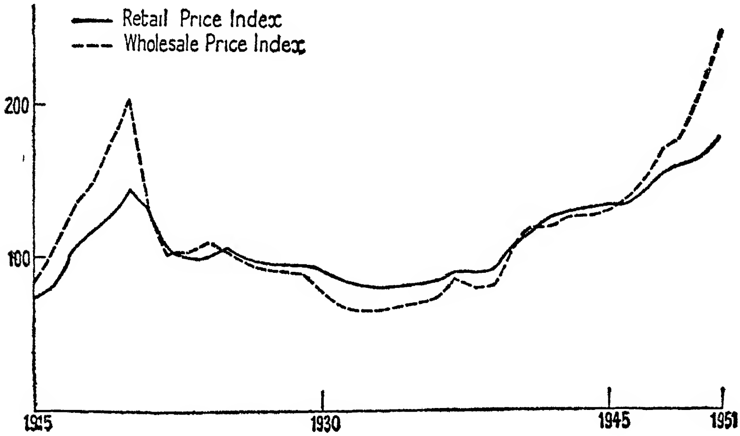


CHART III

production of new capital goods, which we discussed in an earlier chapter.[1] Wars, as we saw, intensify these instabilities, and have very similar effects.

The great inflation of the First World War took the form of a much more rapid rise in wholesale than in retail prices; at the top (which did not come until 1920) the wholesale index was about 30 per cent. higher than it would have been if the two had kept in step. Then, in 1921, came a crash, with a great (though short-lived) outbreak of acute unemployment. Both indexes fell sharply, the wholesale more than the retail, so that they came back into line. During the quieter days of the nineteen-twenties,

[1] See above, Ch. VIII.

the two indexes drifted slowly downwards, keeping in step. These, in Britain, were not days of good trade or employment, but they were not specially bad. After 1930, in the depression years, the wholesale index *fell* more than the retail, but both declined. There was a short-lived recovery towards a more normal relation in 1937. (We must be careful about this—over the rather long period considered, what was normal in the nineteen-twenties might not have been normal by 1938.) The Second World War was a remarkable contrast to the first. Between 1940 and 1945, both indexes rose, but they rose less than they did in the first war, and they kept in step remarkably well. This must be attributed, in the main, to the efficiency of the controls (especially price control) which were operated much more skilfully in the second war than in the first. Since 1945 the position has been very different. Though so many controls have been retained, they have worked much less effectively in peace-time than they did in war. Even the retail price-index has been rising more rapidly than it did in the war, while the wholesale index has been getting right out of step, just as it did in 1919–20. Clearly this is a story that stops in the middle. It may not end as it did in 1920, but in some way or other the two indexes will have to come much closer together than they were in 1951.

XVI

NATIONAL INCOME AND ECONOMIC PROGRESS

1. WHEN the national income has been converted into real terms (when those changes which are solely due to changes in the prices at which goods are valued have been so far as possible eliminated) it provides us with the best single measure of the nation's economic well-being, or economic progress, which we are likely to be able to get. Of course no single measure can tell us all we should like to know; the national income only measures the total volume of goods and services at the disposal of the community during the year; it can tell us nothing, for example, about the way in which that total amount is divided up between rich and poor.[1] Even apart from this question of distribution, the national income has other imperfections which we have noted as we went along, and which we should now do well to recall to our memory. In the first place, the services which are included in the national income are only those services which are paid for, and these do not include all the useful work which is performed.[2] Secondly, no attention is paid to the effort of labour; an increase in the national income, which came about as the result of longer hours being worked, would not be an unqualified gain in economic welfare.[3] Thirdly, there is the awkward question about some of the public services, whether they are to be regarded as directly useful in themselves, or as means to the production of things which are directly useful.[4] An increase in production which took the form of an increased output of services needed for defence or even for administration might not be a clear economic gain like other increases in production. Finally, there is the makeshift character of our devices for eliminating changes in prices, especially when it comes to quality changes.[5] Now every one of these imperfections would be of importance if we attempted to

[1] We shall be discussing this matter in the following chapter.
[2] See above, p. 22. [3] See above, p. 69.
[4] See above, p. 148.
[5] For some discussion of the parallel problem of comparing the economic well-being of different countries see Appendix, Note E.

compare the real income of Great Britain in (say) 1943 with that secured in 1938. Most of them retain some importance even when we leave the war years out of account, and attempt to compare a pre-war with a post-war year. There have been so many changes in the things national income does not measure, or does not measure well, that comparison between (say) 1938 and 1950 is bound to be a ticklish matter. In order to see how the notion of the real national income can be used for measuring and interpreting economic changes, it is as well to begin with something simpler. We shall therefore confine our attention, in most of this chapter, to the years between the wars, which give us a fairly long series of years that are readily comparable with one another.

There is, however, one other qualification which needs separate mention, because (unlike those just considered) it can be allowed for quite easily. This is on the matter of population. Obviously, if the working population of a country is rising, we should expect the real national income to rise with it; more hands should produce more goods. If the national income remained steady when the working population was rising, the position would not be a stationary one, it would be seriously deteriorating. For purposes of comparing economic welfare at different times, it is average real income *per head* which is the interesting figure, not total real income. But probably not real income per head of the *total* population. For let us suppose that population began to increase as a result of people having larger families. So long as the extra inhabitants were in the cradle, or even while they were at school, there would be more mouths to feed (and this would be important), but we should not expect to get any increase in the national product, and consequently in the national income, until they arrived at an age to start working. The fall in the national income per head of total population which might take place in the intervening period would not indicate that the nation was economically going downhill. In order to avoid misapprehensions of this sort, it seems better to divide the national income, not by the total population, but by the working population[1] (those who are either at work or seeking work). Working population will exclude children, women working in the home,

[1] See above, p. 57.

and old people (and these are properly excluded, since we should not expect them to contribute to the national product); it includes the unemployed (who are seeking work, but cannot get it), and it would seem to be quite proper for the unemployed to be included, since a fall in national income due to an increase in the numbers of workers unemployed does mark a real decline in the efficiency of production. Let us therefore take as our test of economic progress the movement of Real National Income per head of Working Population.

2. It is convenient to begin with the population corrections. If we divide the Money National Income[1] by the estimated numbers of the Working Population in each year, we get the Average National Income in money terms. This is shown (for the years 1924–38) in the upper curve in the accompanying chart. The curve begins at about £190 per annum in 1924, falls to £150 per annum in 1932, and then recovers to approximately the same £190 by 1937–8. The violent disturbance of the great depression between 1930 and 1934 (with its heavy unemployment, somewhat reduced wage-level, and greatly reduced profits) is very apparent in this upper curve; taking the curve as a whole, there is not much sign of 'progress'.

But this is average income in money terms; as can be seen from a glance at Chart III in the previous chapter (p. 185), throughout the greater part of the period there was a decided fall in the cost of living. If we take this into account, dividing each year's average money income by the cost-of-living index for the year,[2] we get a very different picture. The average

[1] As the reader will remember, official estimates of the national income do not begin until 1938. For the inter-war years, we have to rely upon unofficial estimates, which are not always in complete agreement, though agreement improves as 1938 is approached. The figures used for Chart IV are Sir Arthur Bowley's (*Studies in the National Income*, p. 81), excepting that the decline shown from 1924 to 1925 is very doubtful (see below), they seem to have stood up well to later criticism.

[2] Since real income is to be thought of as consisting of goods, not as so much money value, it seems better to indicate movements of real income by percentages above or below a base year (in this case 1924) rather than by pounds sterling. As has been explained above, though the cost-of-living index is not an ideal index for the purpose, it is a fairly good approximation.

There is one other correction (besides mere division by the cost-of-living index) which I have introduced when calculating real income from money

national income in *real* terms is shown in the lower curve of the present chart. It tells a much more cheerful story. The great dip due to the depression is extraordinarily flattened out; and instead of 1937 struggling back to a position no better than that

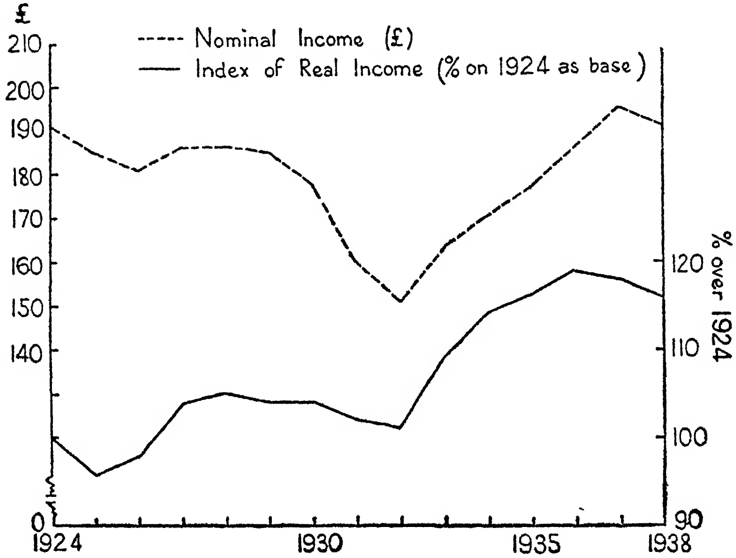


Chart IV

of 1924, the period as a whole is revealed as one of definite—indeed remarkable—economic progress. Real national income per head was nearly 20 per cent. higher in 1936–7 than it was in 1924–5. It might appear at first sight as if this improvement happened altogether in the years 1933–6, but closer examination suggests that that is probably not the right way to look at it. The 1924 figure is rather doubtful, and it is very possible that it should be lower; if we had figures going back to 1923, they

income, it had better be brought to the notice of any reader who desires to work through the matter in detail. Professor Bowley's figures represent the national income at factor cost, but since the cost-of-living index is an index of market prices, not factor costs, we have to add in the indirect taxes before dividing by the cost-of-living index, so as to see that goods are valued at the same prices top and bottom.

would almost certainly show 1923 lower than 1925. There is therefore an upward movement during the years 1923–7 as well as the upward movement of the thirties to be taken into account. Further, the decline in real income which took place in 1931 and 1932 was remarkably small in view of the abnormally heavy unemployment which existed at that time; it is hard to explain the smallness of the drop unless we suppose that some part of the increased productive power which manifested itself after 1933 was already there in the depression years, though it was very incompletely utilized. Putting these things together, it may be suggested that we shall get a more just impression of the whole period if we notice that the levels of real income per head attained in the 'good' years (1924, 1927–8, 1934–6) lie almost on a line—an upward-sloping line which represents a very creditable rate of economic progress. If this progress had been more regular, the rate of advance achieved would probably have compared quite favourably with any but the most rapid advances of earlier periods;[1] but in fact it was interrupted by two dips, a small dip in 1925–6, and a larger dip in 1929–33, during which the level of real income achieved was very considerably lower than what might have been expected from the general trend. In 1937–8 one can see the beginning of what appears to be a third dip; but the history of this third dip was soon dominated by the shadow of approaching war.

3. To attempt a proper explanation of the dips in the real income curve would involve us in matters which lie outside the scope of this book. The immediate cause of the dips was a fall in the proportion of the working population who were actually at work, in 1926 there was the great Coal Strike, and in 1930–3 there was the abnormal unemployment of the great Depression. These were the immediate causes; but when we look for the

[1] Our information about incomes and prices before 1914 is much too sketchy to make any really reliable comparison possible; it does, however, seem likely that between 1880 and 1895 (when generous overseas food supplies at last came to the rescue of population pressure) there was a quite extraordinary rise in real income per head, such as has never occurred again, and may never have occurred at any earlier time. But such rise as occurred between 1895 and 1914 was quite slight.

The latest work on this subject is to be found in the article by A. R. Prest (*Economic Journal*, 1948) previously referred to.

causes of these causes, we are bound to recognize that they were both of them aspects of those monetary diseases from which the world has suffered so greatly during the present century, diseases which it is impossible to understand without making a systematic study of the theory of money. The first dip was closely associated with the restoration of the gold standard in 1925 (the coal strike was itself largely an episode in the history of that restoration). The restoration of the gold standard was intended as a positive measure of post-war reconstruction; those people who were responsible for it no doubt hoped that its first unfortunate repercussions would be the prelude to better things—but their hopes were belied. The depression which began in 1929 was probably not itself a consequence of the restored gold standard; its origins can more readily be explained in terms of those difficulties in maintaining an even flow in the output of capital goods, which we described in an earlier chapter,[1] and which would arise under any monetary system. What is true is that the monetary arrangements introduced in the nineteen-twenties stood up to the shock of depression exceedingly badly; monetary disorders may not have caused the depression, but they were undoubtedly responsible for its being so 'great'. After 1931 new methods were tried in the monetary field; whether the new methods will work better under a similar strain is a question which has long remained undecided, but may soon begin to be answered.

4. So much for the dips; but the economic development of Britain during the years we are discussing contained something more than dips; there was also the underlying upward trend. What can we say about the causes of the trend?

Remembering our general plan of the productive process, it would appear at first sight as if this sort of gradual upward movement in real income per head must be due to one or other of three causes: (1) improvements in the average skill of labour, (2) increases in the capital equipment worked, with (3) improvements in technique—the utilization of more efficient methods of combining labour with capital. Is it possible to say anything about the relative importance of these causes in this particular case?

[1] See above, pp. 75–80.

As far as present knowledge goes, it is not possible to say very much, though further investigation may well throw more light on the matter. Something can plausibly be ascribed to improvements in the average skill of labour. Education (both general and technical) had been very greatly improved during the present century, particularly after the Education Acts of 1902 and 1918. Now the effect on the average skill of labour which is produced by an improvement in educational facilities must inevitably be extremely gradual; in 1924 not more than 40 per cent. of the occupied male population are likely to have had any experience (in their school years) of the educational improvements which followed the Act of 1902, but by 1938 the proportion may have risen to 80 per cent. In the same way, the proportion of those who had experienced the effects of the 1918 Act will have been continually rising, though it cannot have reached more than 40 per cent. in 1938, and will take until about 1960 to work itself out fully.[1]

Improvements due to increases in capital equipment and improvements due to advances in technique are hard to disentangle. We do possess some estimates of the rate of capital accumulation during the period,[2] but there is a good deal of uncertainty about them, and they are not easy to interpret. Taken at their face value, the figures would seem to suggest that investment in new capital has been quite sufficient over the period for a considerable part of the increase in real income to be properly attributable to this cause. The statistical evidence which leads to this conclusion is not very strong; but this is one of the cases in which we may reasonably have more confidence in the conclusion than in the statistics. For in a period of advancing technique, the effectiveness of new additions to capital is always greater than it appears to be, judging simply by the value of the additions. The increase of capital equipment does not merely consist of new capital goods being added to the old, new goods which are of the same sorts as the old; the additional capital goods are to a large extent goods of different sorts, more

[1] The 1944 Act of course lies outside our period, and such effects as are to be anticipated from it must even now (1951) lie for the most part in the future.

[2] See Colin Clark, *National Income and Outlay*, p. 185.

up-to-date sorts, which generally means more efficient sorts. The same thing applies indeed to the replacements of capital which take place during the period. Capital goods wear out and are replaced; but an old machine is not necessarily replaced by the same sort of machine as before. If there has been an improvement in technical methods in the interval since the old machine was acquired, the new machine is likely to be different from the old, more efficient than the old. The new machine may sometimes cost no more than the old machine which it replaces, so that the firm which uses it does not reckon that it has made any addition to its capital; but if it is more efficient than the old machine which it replaces, there is an increase in productivity, due (perhaps we may say) to an improvement in the *quality* of the capital equipment employed.

Improvements in technique do very commonly take the form of improvements in the quality of capital. The making of an invention—the *discovery* of a more efficient method of production—does not itself increase productivity; productivity is only increased when the new method is applied, and usually it cannot be applied until the new equipment with which to apply it has been constructed. Thus it frequently happens that increases in productivity which are ultimately due to a particular invention are not completed until several decades after the date when the invention was originally made. Probably the most potent of the inventions which increased productivity between 1924 and 1938 were the internal combustion engine and the electric dynamo; but neither of these was a new invention, each was inherited from the nineteenth century and had completed all the essential stages of its technical development before 1910; the great economic effects of these inventions belong to the later period, because the inventions had to be embodied in capital goods before they could be utilized, and the new capital goods took time to construct. It is well to remind ourselves of the variety of capital goods which are needed for the full utilization of a major invention like the internal combustion engine. Even in the field of terrestrial locomotion alone, it was not merely a question of making the motor-lorries and motor-buses, the motor-cars and motor-bicycles; the plant for making these vehicles had first to be constructed, while garages to repair them were also necessary,

metalled roads on which they could run, tankers to bring them their fuel, and petrol pumps from which to distribute it. And none of these things could function unless there were also available, at the ends of the earth, the oil-wells from which the essential fuel originally springs, and the tropical plantations to provide rubber for the tyres. When one remembers that only a limited proportion of the community's resources is available each year for new investment, and that there are other forms of new investment to be provided for as well (in our period the most important of these competing forms of new investment was housing), it is not surprising that a great invention should take some time to realize itself fully. But while it is realizing itself, it adds very greatly to the productivity of the additions to capital which are being made.

5. The causes making for a rise in real income per head which we have so far been discussing are all of them in principle *internal* causes, causes which originate in the development of the nation's own productive system. But as well as these internal causes there are external causes to be considered, causes which work through the nation's foreign trade or through its international creditor or debtor position. In the actual case of Britain during our period, the external causes require very serious attention indeed.

The official estimates of income received from foreign investments[1] do not suggest, at first sight, that the British people were deriving any more advantage from their economic relations with other countries at the end of the period than they were at the beginning. Net income from overseas is estimated to have been about £220 millions in 1924, about £250 millions during the years 1925–9, to have dropped to £150 millions by 1932, and to have recovered, but only as far as £200 millions, by 1936–8 There was some new foreign lending during the period, but it was much more than offset by disasters to old investments, reductions in dividends, bankruptcies, partial and total defaults.

This is how the story appears on the surface; but the superficial view is misleading, for once again we have to allow for changes in prices. In this case it is not sufficient to convert our figures into real terms by using the cost-of-living index.

[1] Estimate of the balance of payments (pre-war Statistical Abstracts).

The real income derived from overseas investments is taken out in the form of an excess of imports over exports; its magnitude therefore depends, not on the level of prices in general, but on the prices of those particular goods which are imported into the country. Now the prices of imports fell between 1924 and 1935 much more than other prices did; the special index-number which is compiled by the Board of Trade for a 'basket' of imported goods fell from 100 in 1924 to 57 in 1935, while the cost-of-living index only fell from 100 to 83. (The full figures of this index-number of import prices are given in Table VIII at the end of this chapter.) If we use this index-number to calculate the *quantity* of goods which Britain was receiving in payment of interest and dividends on foreign investments, we find that the losses due to the fall in the money value of overseas income were not real losses at all. The real value of overseas income never fell below what it had been in 1924, not even in the bad year of 1932. By 1935 the real value of overseas income was nearly half as much again as in 1924. Income from overseas investments is not large enough in total for this contribution to make very much difference to the average level of real incomes in the country, but clearly it is a contribution in the right direction.

The extraordinary fall in the prices of imports had, however, an effect which went beyond this. Even if a country was neither a creditor nor a debtor, and was neither borrowing nor lending, so that its imports and exports (including invisibles) were exactly equal in value,[1] it might still be made better or worse off by the effects of such changes in prices on its foreign trade. Let us begin by taking a simple case to bring out the principle. Let us consider an imaginary nation, whose exports consist entirely of coal, and whose imports consist entirely of wheat. If it produced 10 million tons of coal for export, and the price of coal was £1 per ton, the value of its exports would be £10 millions. Assuming that its exports and imports are equal in value, it would then have £10 millions to spend upon wheat. If the price of wheat was 10*s.* a cwt., the amount of wheat it could import would be 20 million cwt.

If now the price of coal remained the same, but the price of

[1] See above, p. 139.

wheat fell to 8*s*., the same amount of coal might be exported, and yet the amount of wheat got in exchange would rise from 20 million cwt. to 25 million cwt. The amounts of all goods produced at home might remain exactly the same (including the 10 million tons of coal produced for export), and yet the real income of the people would have increased by an extra 5 million cwt. of wheat. Real income would be increased, not because of an improvement in productivity, but because the *Terms of Trade*—the amount of other countries' products which the nation gets in exchange for a unit of its own products—had moved in its favour.

A favourable movement of the terms of trade can be a source of great advantage to the country which experiences it; but it is not always an unmixed advantage. For suppose (to continue with our imaginary example) that the country does not happen to want any more wheat; 20 million cwt. of imports were sufficient to satisfy practically all the community's wants for bread; an extra 5 millions would serve no useful purpose. In that case, either the value of exports must be allowed to exceed the value of imports (which could only be done by lending abroad, and there may be no suitable opportunities for foreign lending), or the amount of coal exported must be cut down. The country could continue to import only 20 million cwt. of wheat if it exported no more than 8 million tons of coal; at these quantities the value of imports and the value of exports would again balance. In a sense, this situation too would be quite satisfactory; the country would be getting all the wheat it wanted by giving up only 8 million tons of coal instead of 10 millions If the home consumption of coal could be quickly increased, the advantage might be taken out in an increased consumption of coal at home, instead of in an increased consumption of wheat. But if consumption was not increased with sufficient rapidity in either direction, the output of coal would fall; and the movement of the terms of trade, which should have been a great advantage to the nation, would only result in an outbreak of unemployment in the coal industry.

6. The actual course of events in Britain during our period had many features in common with this imaginary example.

The prices of imports fell very heavily; although the prices of exports fell too, they did not fall on the average as much as the prices of imports, with the result that the terms of trade moved in Britain's favour. The official index-numbers of import and export prices[1] are given in the table on p. 202, the third column of the table is an index-number of the terms of trade, got by dividing the export price-index by the import price-index and multiplying by 100. (The terms-of-trade index shows the average amount of imports got in exchange for a unit of exports; a fall in the price of imports increases this amount, a fall in the price of exports diminishes it.) It will be observed that the terms of trade turned very strongly in favour of Britain (the index rose by more than 20 per cent.) between 1929 and 1933. After that a part of the gain was lost, but some of it persisted.

The violent movement of the terms of trade during the depression years was due to the same sorts of causes as are responsible for the wholesale price-index having wider swings than the retail index of the cost of living.[2] Raw materials and agricultural products fell in price more than manufactured products did; consequently countries like Britain, whose exports are mainly manufactures, but whose imports largely consist of foodstuffs and raw materials, found the terms of trade moving in their favour. The change in the terms of trade which persisted when the depression was over is more probably to be ascribed to the great technical improvements in the production of raw materials, which have been so notable a feature of the economic history of the twentieth century. The costs of producing many materials, particularly in the tropical countries, were dramatically lowered; Britain experienced the effect of these improvements through the change in her terms of trade.

The change in the terms of trade, and the increase in the real value of her overseas income, would have made it possible for Britain to expand her imports on a great scale, while giving up no more exports in exchange than before But this is not what

[1] Prices of retained imports and of home-produced exports It should be observed that these index-numbers are compiled entirely on the basis of *visible* imports and exports (see note on p 130), if invisibles were included, the figures would probably need a slight correction, but it is not likely that this would affect the general impression.

[2] See above, p. 184, and Chart III.

happened. There was some tendency for imports to increase during 1930–1; but the increase was cut short by the tariff imposed in 1932. During the nineteen-thirties the volume of imports (in real terms) per head of working population was usually a little (perhaps 2 or 3 per cent.) less than it was in the twenties. The fact that imports were acquired so much more cheaply than they were in the twenties was reflected in a reduced volume of exports, not in an increased volume of imports.

The reduction in exports was a disaster to the export trades; but for the nation as a whole it was an opportunity, not a disaster—though it took some time for the opportunity to be translated into a real advantage. There was a first phase in which the reduction in exports merely led to unemployment in the export trades; people were thrown out of work, because their labour was no longer needed for the production of exports, and because (for the moment) no alternative occupation for them could be found. At this stage there was no advantage to the nation; yet even so the swing in the terms of trade explains how it was possible for this great unemployment to be associated with the small reduction in real income per head which appears on our chart. The people who were thrown out of work did indeed experience a reduction in their real incomes; but those who remained in work were actually better off than before the slump (the London area was one of the few places in the world which were quite prosperous in 1931–3). Such reduction in real national income as did occur was solely due to the reduction in production for the home market; exports were reduced, but the reduced exports brought in no less an amount of imports than before.

In the second phase, after 1933, the opportunity provided by the change in the terms of trade was converted into a substantial advantage. The people whose labour was no longer needed in the production of exports turned over to produce for the home market (either in their old occupations or in new occupations to which they transferred themselves). At this stage real income per head rose sharply (as again appears from the chart); one reason for the sharpness of the rise was the change in the terms of trade. Much the same volume of imports as in the twenties could be got in exchange for a smaller volume of

exports; the productive power which had been used for making the additional exports was now set free to produce more goods for home consumption.

7. Though we are confining this chapter's study of the real national income to the inter-war period, it would be misleading to break off our discussion of the terms of trade in 1938. The goods which Britain imports and exports are on the average more standardized than those which enter into home trade; thus we get a more reliable impression by continuing the series of British import and export prices across the war years than we do in the case of the general price-indexes. Table VIII has therefore been prolonged after 1938, so as to be complete up to the time of writing. It tells a remarkable, and in some ways alarming, story.

The 'favourable' terms of trade which had been characteristic of the nineteen-thirties lasted right up to the war, and (apparently) right through it. But the figures for the war years should not have too much importance attached to them. Much less trade was passing than in peace-time, and the prices at which it took place were largely controlled, often by international agreement. The effects of the war on Britain's trading position are only seen from 1947 onwards. From 1947 to 1949 the terms of trade settled at a level which was near to that which had been characteristic of the twenties; the gain of the thirties was lost. Then in 1950 and 1951 there was a further adverse movement. The 1951 figure is by far the worst on the table. The swing from 1949 to 1951 was as violent as the great swing from 1929 to 1931; but it was in the other direction.

It is easy to see, in the light of the foregoing discussion, that this adverse movement of the terms of trade is one reason why it has been so easy to maintain 'full employment' in post-war Britain. Whereas, in the nineteen-thirties, Britain's most necessary imports could be purchased with a smaller volume of exports than had been customary in the past, the problem (since 1947) has been one of finding enough exports to pay for imports. When the further swing took place after 1949, the export trades were already fully employed, so that there was no favourable effect on employment. There was no unemployment

to act as a 'buffer', so that the effect of the adverse movement was more *wholly* unfavourable than it might have been in different circumstances.

How are these post-war movements to be explained? No attempt at a full explanation can be made here; but a few simple points, which go a long way towards explaining what has happened, may be made. First of all, there were special post-war influences affecting both the supply of foodstuffs and raw materials (Britain's most important imports) and the demand for them from other countries. Though the long-run tendencies improving the supply of such goods (to which we attributed a part of the favourable movement during the nineteen-thirties) are probably still at work, they have been interrupted by the strains and disasters of war. The destruction in South-east Asia, for instance, has had a multitude of direct and indirect effects on the supply of a large number of commodities. The United States is one of the few food-exporting countries which has experienced a normal increase in agricultural production during the nineteen-forties—this is quite an important reason for 'dollar shortage'. At the same time, post-war scarcity of capital goods has led to a very rapid rate of investment all over the world; that has led to an exceptional demand for materials, and (indirectly) for foodstuffs also. These things alone would account for some deterioration in British terms of trade—they are quite enough to account for the movement between (say) 1937 and 1947–9.

But this is not the whole story. If it were, we might have expected an improvement, as the war got farther away, not the further deterioration which has occurred. The next thing which we have to bring in is of a relatively permanent character. Instead of being a creditor nation, as she was before the war, so that she could secure some part of her imports without currently paying for them, Britain is now a debtor country. Therefore, to keep her balance of payments in order, she is obliged to export more than she did before (unless she will import less), and she cannot expect that the world will always absorb these additional exports easily. Some concession in the prices which Britain will take for her exports, relatively to what she pays for her imports, is probably necessary. The need for making this concession was signalized by the devaluation of 1949.

Devaluation was probably unavoidable, though the extent of the devaluation chosen is open to criticism. It was a recognition

TABLE VIII

British terms of trade

Index-numbers (1924 base year)

	Export prices	*Import prices*	*Terms of trade*
1924	100	100	100
1925	97	99	98
1926	92	90	102
1927	87	87	100
1928	86	88	98
1929	84	86	98
1930	80	76	105
1931	72	61	118
1932	67	57	118
1933	66	54	122
1934	66	55	120
1935	66	57	116
1936	67	60	112
1937	73	68	107
1938	74	64	116
1939	74	65	114
1940	91	88	103
1941	103	102	101
1942	117	107	109
1943	126	119	106
1944	136	120	113
1945	138	125	110
1946	146	133	110
1947	164	165	99
1948	182	183	99
1949	186	186	100
1950	198	218	91
1951	234	294	79

that Britain could not expect to retain such favourable terms of trade as she had experienced in the past, to do that was to face realities. But the movement which has followed has been more catastrophic than was anticipated. This is to be explained by the imposition of the armaments boom (leading to a world inflation

that is much less well controlled than the war inflation) on the top of devaluation. The two things have worked together in a way which has led to acute difficulties.

This story, like that which we considered at the end of the last chapter, breaks off in the middle. (Of course it is the same story.) There is no more reason to suppose that the 1951 terms of trade will be characteristic of the future than that the 1951 relation between wholesale and retail prices will be permanent. It is likely that Britain's terms of trade over the next decade will be worse than they were in the nineteen-thirties, perhaps worse than they were in 1947–9. But the 1951 figure is a crisis figure, which cannot last—though its consequences, while they last, are bound to be unpleasant.

XVII

THE INEQUALITY OF INCOMES

1. In our studies of the national income we have divided it up in various ways: into the part which is consumed and the part which is saved, into the part which is taken by the State and the part which is left in private hands, into the part which is paid in wages and the part which is taken in profits. But so far we have said scarcely anything about what most people would regard as the most interesting sort of division—the division into incomes of the rich and incomes of the poor. This is not at all the same division as the division into wages and profits; there are some very rich people who earn their large incomes by working for them (successful lawyers or successful film actors, for instance), so that their incomes count as wages; there are some quite poor people (for the most part elderly people) who live on incomes derived from interest on their past savings, so that their incomes belong on the profits side. No doubt more large incomes are derived from profits than from earnings of labour, and more small incomes are derived from wages than from profits. Nevertheless, the division into small incomes and large incomes is one which has to be studied as a separate problem.

In Britain, as in most other countries, the great majority of the population have incomes rather below the average for the community as a whole. The number of people with incomes above the average is relatively small, but some of these people have incomes very much above the average. It is customary, in ordinary speech and for political purposes, to refer to this last group (small in numbers but with large incomes) as 'the wealthy'; the larger group, whose incomes are above the average, but less markedly above it, as the 'middle class'; and the largest group, most of whose incomes are below the average, as the 'working class'. It should, however, be noticed that *class* differences are not by any means wholly due to differences in income; for social purposes a person belongs to the middle class if he lives in a middle-class way and associates with middle-class

people.[1] The distinction between working class and middle class is as much a matter of the way income is earned as of the size of the income; manual workers tend to regard themselves as working class, clerical workers tend to regard themselves as middle class; but a highly skilled manual worker will earn more than a lower-grade clerk. It is not possible to divide the population into clearly marked classes, each consisting of people with lower incomes than people in the classes above them, and higher incomes than people in the classes below them. If the division is made on any other basis than that of income, the incomes characteristic of the classes will be found to overlap. If the division is made on a basis of income, it will be found, however the income-groups are selected, that the result is a fairly regular pyramid. There will be some people with incomes in each range, and generally there will be smaller numbers of people in each range as we go up the scale of incomes.

Our knowledge of the distribution of British incomes among income-groups is derived, like so much of our knowledge about incomes, from the records of the income tax. The higher incomes (those above £2,000 a year) pay *surtax*, an extra income tax which is formally calculated with reference to the size of the taxpayer's income, taken as a whole; the distribution of these incomes is therefore known directly, as soon as the tax to be paid on them has been assessed. The distribution of incomes less than £2,000 a year is known less precisely, even though most of them pay income tax; for though the rate of tax does in fact bear some relation to the size of the income, this is effected indirectly, by a system of allowances, which avoids the necessity of calculating the total income of the taxpayer in each separate case. Such information as has been available until lately about the distribution of incomes below £2,000 has therefore been distinctly incomplete and unreliable; it has not been possible to get a view of income distribution as a whole in which much confidence could be placed. In the year 1949, however, the tax authorities made a special inquiry (an 'income census') for the purpose of discovering which of the various bits of income assessed in the lower

[1] For a discussion of the relation between differences in income and the less economic elements in class distinction, see T. H. Marshall, 'Social Class' (*Sociological Review*, January 1934).

income-groups belonged to the same incomes; the results of this inquiry[1] give us a much more satisfactory picture than we have had before.

One of the difficulties which arises when we seek to give a comprehensive picture of the distribution of incomes is that of differences in the kind of incomes which have to be compared. A man and wife, with their children, have all together just one income for purposes of income tax; a boy and a girl, who are just commencing as wage-earners, have two incomes, though they will only have one income when the time comes for them to get married. If the income of the family was no more than that of the boy or girl, it would, on any reasonable standard, be much worse off. This difficulty cannot be overcome by working in terms of persons, for needs differ at different ages, and juveniles are often not entirely dependent on the incomes they themselves earn. It may therefore be suggested that we get a better picture of income distribution if we refrain from mixing up all these kinds of income together, and look at just one kind of income, classified in such a way as to make it a little more homogeneous. The income census makes it possible to do this. Since we want to take a large group, if we are to get anything like a general impression from it, we must be content with one which includes a good deal of variation in family circumstances. Thus the best group to take seems to be that of married persons, all of whose incomes are enjoyed by husband and wife, with or without family. This excludes from consideration some cases which may be afflicted by severe poverty (such as the widow with children), but it, nevertheless, gives a better picture of the true extent of income inequality than we can get in any other simple way.

Table IX accordingly shows the distribution of incomes of married persons in the 'fiscal year' April 1949 to April 1950. Income is made to correspond as nearly as possible to what we have called 'Income before tax and transfer'; social security

[1] These results are published in the Ninety-Fourth report of the Inland Revenue (Cmd. 8436) It should be understood that the inquiry did not proceed by counting up all the bits of income assessed over the whole population, and fitting them all into their places, that would have been a herculean task, requiring far more labour than could be spared for it. What was done was to take a representative sample, as is done in a Gallup poll When, as here, no 'majorities' are at stake, modern sampling procedure is highly reliable.

benefits (including family allowances) are not included, and contributions are not deducted. There may be a few transfer payments, such as war pensions, which have not been taken out, but they cannot make much difference to the general effect. The total number of incomes included (11.2 millions) may be as much as a million less than the total number of married couples in the country; but most of those excluded are old-age pensioners, who are being looked after in other ways. Thus, though the table does not include quite all of the incomes of married couples 'before tax and transfer' it includes very nearly all. A more complete enumeration could hardly make a perceptible difference.

TABLE IX

Personal incomes of married couples (before tax and transfer) 1949–50

Income class (p a)	Number in class (thousands)	Total income in class (£ millions)	Average income in class (£ p a)
Over £10,000	8	127	16,100
£2,000–£10,000	178	614	3,450
£1,000–£2,000	333	450	1,350
£500–£1,000	2,121	1,344	630
£250–£500	7,049	2,549	357
Under £250	1,536	315	205

Thus in 1949 the great majority of the incomes of married couples fell into the £250–£500 group. Even if we allow for some omissions in the lowest group, the total number of incomes in the lowest group cannot have greatly exceeded the number of higher incomes, which rise above the big group. Since 1949 money incomes have risen further, the number of these incomes which remain in the under £250 group must by now have become quite small.

2. What are the reasons for the inequality of incomes? This is a very wide question; we have to draw upon many branches of economics before we can begin to answer it properly.[1] Here

[1] See Cannan, *Wealth*, chs. 10–13, for what is still the best elementary discussion of the matter.

we can do no more than indicate a few of the issues which come up.

As soon as we begin to think about the question systematically, it becomes clear that it can be divided, more or less completely, into a number of sub-questions. Since incomes are derived either from the earnings of labour (wages and salaries) or from the personal ownership of capital, we have to ask: (1) why some people earn higher wages than others, (2) why some people own more capital than others. If we could answer these questions, we should have made considerable progress in answering the main question; but we should not have answered it completely. For the ownership of the same capital may yield a higher income to the owner at some times than at others. It might happen, for example, that capital was distributed among owners just as unequally as it was before, but the share of the national income going in profits was reduced from one-quarter to one-eighth; in this case the incomes of capitalists would be reduced very greatly relatively to the incomes of wage-earners, and in consequence (since capitalists are at present on the whole the richer class) incomes would be more equally distributed.[1] There is thus a third sub-question to be considered: why is the national income divided between wages and profits in the way it is? An alteration in the relative shares of capital and labour would affect the inequality of incomes.[2]

The reasons for the differences in the wages earned by different people for the work they do have already been discussed to some extent in the earlier chapters.[3] We have seen that the economic functions of differences in wages are to facilitate the distribution of labour among occupations, and to provide an incentive to effort. If an adequate supply of particular sorts of work is difficult to get, and there are particular people who are specially suitable to perform these kinds of work, there is a case for giving them a wage sufficient to induce them to

[1] Something of this kind did actually happen, not so much by a change in the proportion of profits to wages, as by a change in the proportion of distributed to undistributed profits, between 1938 and 1949. See pp. 256–7 below.

[2] It is worth noticing that a change in these relative shares would not affect the inequality of incomes if the ownership of capital were equally distributed.

[3] Chapters VI and VII above.

specialize themselves, and to exert themselves, in these occupations. Some differences in wages can be defended on these grounds; but it must not be supposed that all the differences which exist at any particular time can be defended in this way. For example, it often happens that a high level of wages is established in a particular occupation, in the first place for good reasons; but after a time the labour needed ceases to be specially scarce, and yet the high wages may persist. Once people have acquired a privileged position, they are reluctant to abandon it, and will use all sorts of economic and political pressure to maintain it. The branch of economics which deals with differences in earnings from labour is therefore concerned both with discovering what differences can be justified on grounds of efficiency, and with criticizing the differences that actually exist by comparing them with more ideal arrangements.

Similar issues come up in connexion with the proportion in which the national income is divided between capital and labour. This is one of the most important of economic problems, but it is also one of the most difficult, and it is not even yet completely settled. It would be impossible to say anything useful about it with the methods we are using in this book.

Inequality in capital ownership is perhaps the most striking of the three elements which are responsible for the inequality of incomes. If the ownership of capital were equally distributed, the fact that a considerable proportion of the national income is taken in profits would matter far less; and since nearly all the largest incomes are due to the ownership of large amounts of capital, the disparity between the largest and the smallest incomes would be far less wide. Inequality in the ownership of capital is indeed one of the things which make for inequality in the earnings of labour; people who possess capital (or whose parents possess capital) find it easier to enter some of the more remunerative occupations, and in other ways have wider fields for the exercise of such talents as they possess. If capital were more equally distributed, a great deal of the problem of inequality would disappear.

Capital is acquired in two main ways—by personal saving and by inheritance. The small savings which the ordinary man puts aside for his old age, or as a nest-egg against emergencies,

do in the end make him into a capitalist, though a very modest one. The successful man, on the other hand, who earns a large income from his labour, but spends only a small part of that income, may become a capitalist on a considerable scale long before the end of his working life; this is particularly likely to be the case if his talents are of a kind which enable him to invest his capital profitably, and so get a large return on it from the start. To acquire a really large amount of capital entirely from one's own savings is, however, very exceptional; since 1940, in view of the stiffening of income taxes, it has become nearly impossible. The part played by inheritance of property in causing inequality of capital ownership is therefore a very important one.

The acquisition of capital by inheritance is usually regarded nowadays[1] as less justifiable than acquisition by personal saving; the State has therefore considered that the passage of property at death is a suitable occasion for special taxation. The British death duties were first imposed in 1894; but the rates of tax long remained at a low level, which is unlikely to have had any appreciable effect on the inequality of capital ownership. The system of rates imposed in 1930 was much more onerous; but even in 1938 an estate of £200,000 paid no more than 25 per cent., and it was only on giant estates of more than £2 millions that the already formidable figure of 50 per cent. was reached. There have been further increases from 1939 to 1949; an estate of £200,000 now pays 60 per cent., and one of £1,000,000 pays 80 per cent. At the same time the inflation of prices has added to the burden of death duties, for an estate of £200,000 now has a real value which is no more than £100,000 in pre-war pounds. If we make that comparison, the rate of death duty on such an estate has risen from 20 per cent. to 60 per cent. since 1939.

At their present level death duties have a confiscatory effect on all large properties County families, in which the same landed estate has been handed down for generations, find that their traditional way of life is brought to an end by the impact of

[1] In earlier times it would not have been regarded in that light, one may indeed question whether this modern attitude towards *inheritance* of property does not have some connexion with a more general tendency to exalt the individual as against the family—a tendency which cannot continue indefinitely, if only because of its effects on the side of population.

death duties. Family businesses have to be broken up. These things are happening, but there has not yet been time for their full effects to be seen. There must be quite a number of large estates which have not changed hands during the last twenty years (and it is only in the last twenty years that death duties have been really formidable); but the proportion of those which have not done so is continually declining. The number of those yet affected by the post-war rises in rates is still quite small. With death duties as high as they are now, there is a strong incentive to take any possible means of avoidance that is left open; property is therefore handed on to the heir in advance of the original owner's death, or is left in trust so that the income only will be enjoyed by the legatee, and the estate will not again pay death duties when he (or she) dies. The first sort of avoidance has been attacked by enacting that gifts made less than (now) five years before death are assessable to death duty; but the second is still given a fairly free run. One of the reasons why this door has been left open is that it serves to offset one manifest unfairness in the present system—the treatment of husband and wife—which would have to be dealt with in some other way if it were closed. As things are at present, a husband cannot leave property to his wife without death duties being payable twice over (at his death and at hers) if she survives him; though if she did not survive him, the property would pass from one generation to the next with only a single payment. If a direct concession were made to deal with this hard case, it would be possible to stiffen up on trusts—which at present have to be used to meet this situation, but can at the same time be misused in others.

3. No precise information is available of the way in which the operation of death duties has affected the distribution of property during the last twenty years; there is, however, no doubt that the inequality of incomes, even before tax, has been significantly diminishing. This cannot be shown from the 'income census' figures which we used in Table IX, since 1949 is the only year for which such figures are available. The best figures we have, which are capable of being compared, are those given in the National Income White Paper. These figures require a certain amount of adjustment, before they can be used for our

purposes;[1] the following table accordingly contains a certain amount of guesswork, quite apart from its main defect of mixing all kinds of incomes together, without any reference to family circumstances. As long as we confine ourselves to using it for the comparison of one year with another, these defects are perhaps not so very serious.

TABLE X

Personal Income (before tax and transfer) 1938 and 1949

Income class		Number in class (thousands)		Average income in class (£ p.a.)	
1938	1949	1938	1949	1938	1949
Over £1,000	Over £2,000	289	230	2,660	4,100
£500–1,000	£1,000–2,000	539	545	670	1,350
£250–500	£500–1,000	1,890	2,443	335	670
Under £250	Under £500	15,300	16,800	150	310

The White Paper figures show us the distribution of personal incomes in two years, 1938 and 1949. We have to be careful in comparing these two sets of figures. In view of the rise in prices, £1 in 1938 is not the same thing as £1 in 1949. It is therefore misleading to put the £250–500 class in 1938 alongside the £250–500 class in 1949; in view of the rise in prices, the latter people were much poorer than the former. But there is a simple way of making a rough allowance for this complication. The level of wages in 1949 was not far from double the 1938 level; though

[1] The main trouble is that the White Paper table is not consistently a table of incomes 'before tax and transfer' which is what we want. It includes transfer incomes (putting them all, not very intelligibly in post-war conditions, into the lowest income-group) and excludes contributions to social insurance. The transfer incomes can easily be taken out, and the contributions can be roughly allowed for. Another major difficulty is that the White Paper gives no figure for the *number* of incomes in the lowest income-group; no *satisfactory* figure for this can of course be provided. What I have done is to take the Inland Revenue's figure for the total number of incomes in 1949—which, as we have seen, cannot be far from complete. For 1938 I assume that the corresponding number of incomes would have been two millions less, since the working population had gone up by more than three millions, but a considerable number of these were married women, who are not reckoned to have separate 'incomes'. It seems reasonable to maintain that this gives us a fair comparison.

All figures in Tables X and XI are from the 1951 White Paper (Cmd. 8203).

prices (or at least those prices which matter most to wage-earners) had risen less than this, the assumption that £1 (1938) equals £2 (1949) will keep wage-earners' incomes quite closely comparable; we can then see what happened to the higher incomes *on that basis*. The result is shown in Table X.

When the figures are arranged in this way, it becomes evident from the numbers in the classes that it is people of the same sort who are being compared. The *numbers* in the lowest class do not deserve much attention; there must have been an increase something like this, but the actual figures do not mean very much The increase in numbers in the next class (third from the top) is more solid; it shows a substantial moving-up into the higher ranks of manual labour, and into the 'lower middle class'. The second class from the top is quite steady in numbers. The number in the top class has fallen, proportionately quite heavily. Thus all the changes in numbers are such that they can fairly be interpreted as being in the direction of greater equality.

When we look at the average incomes in the various classes, we must remember our convention that £1 (1938) equals £2 (1949). In the two middle classes average incomes (1949) are almost exactly double average incomes (1938); the average positions of these classes may therefore be regarded as substantially unchanged. The lowest class appears to have made a small gain, but it is quite small. But when we look at the top class, and convert 1938 into 1949 on the same method, we find that there has been a heavy fall in average income (about 20 per cent.). Thus there were fewer people in the top income-group, and their average income was also reduced.

What were the reasons for this fall in the top income-group? Death duties must have been one of the reasons, but cannot have been the only reason. Even on the side of salaries, high incomes have risen proportionately less than lower. There have been several factors working against the expansion of incomes from property. These will be examined more fully in Chapter XXI; here we shall merely allude to a few of them. Rents have been sticky in money terms—house rents because of rent control, land rents for obscurer reasons. Bonds carrying a fixed rate of interest naturally give no more money income per bond than they did in 1938; the gain to the shareholder, which might have been expected

to outweigh the bondholder's loss, has been prevented from materializing by heavy taxation of profits (before they can be distributed as personal incomes) and by political pressure for dividend limitation. These things seem quite sufficient to account for what has happened, though some of them (it should be noticed) are probably temporary. Death duties may well play a larger part in compressing the top income-group in the nineteen-fifties than they have done in the nineteen-forties.

4. The incomes we have been considering so far are incomes before tax and transfer. They are the incomes on which taxes are paid, not those which remain after the payment of taxes; it is only incomes in the latter sense which are *disposable* for the satisfaction of personal wants. The rates of taxation on high incomes are much greater than the rates of taxation on low incomes; thus the incomes which are disposable for personal expenditure are much less unequal than the incomes we have been discussing. What can be said about the inequality of disposable incomes?

It is best to take the question by stages. Table XI shows the distribution of disposable incomes after direct taxes and transfers —after allowing, that is, for income taxes and social insurance contributions on the one hand, social insurance benefits on the other. It simply repeats Table X, except that instead of showing the average nominal income in each group, it shows the average disposable income. The two tables should be looked at closely together.

Comparing the 1938 figures in the above tables, it will be seen that the top group was then paying about 30 per cent. of its income in tax (of course this is an average—the largest incomes at the top of the group were paying far more than this). The second group was paying 10 per cent., the third group 3 per cent., while the fourth was gaining more from transfers than it paid in tax. Comparing the 1949 figures, the average tax on the top group had nearly reached 50 per cent., that on the second group was more than 25 per cent., while the third (which had nearly escaped tax in 1938) was paying no less than 16 per cent.[1] The

[1] This particular figure is distinctly doubtful. The White Paper (which we are following) ascribes all the Social Security transfers to the lowest income-

lowest group was still gaining, but proportionately less than it gained in 1938.

Comparing the two figures for disposable income (Table XI) we see that the disposable income of the lowest group had exactly doubled. The prices paid by this group had risen greatly, but they had not doubled, thus we can make some allowance for food and housing shortages not fully reflected in prices, and still conclude that this group must have been substantially better off in 1949 than in 1938. The average disposable income in the third

TABLE XI

Disposable Income (after direct taxes and transfers) 1938 and 1949

Income class		Number in class (thousands)		Average disposable income in class (£ p.a.)	
1938	1949	1938	1949	1938	1949
Over £1,000	Over £2,000	289	230	1,820	2,100
£500–1,000	£1,000–2,000	539	545	600	990
£250–500	£500–1,000	1,890	2,443	325	560
Under £250	Under £500	15,300	16,800	165	330

group had risen by about 75 per cent., hardly enough to compensate for the rise in prices; allowing for shortages, the average standard in this group must have been distinctly lower in the later year. The two top groups were unquestionably worse off, the top group very much worse off. Thus, in terms of disposable income, there was a decided movement in the direction of greater equality.

5. A table of this kind cannot, however, tell the whole story. It only allows for direct taxes and transfers; indirect taxes, as well as subsidies and other forms of social expenditure, remain to be considered. So far as 1938 is concerned, something can be done in the way of allocating indirect taxes (subsidies were then unimportant) among the income-groups; estimates have been made of the consumption of taxed articles, according to income-

group; but in fact, in 1949 conditions, the advantages accruing to the next group from such things as sickness benefits must have been quite appreciable The *net* burden of direct taxation on this group may therefore have been appreciably less than what appears

group, and on the basis of these a division of indirect taxation by income group can be made.[1] There is a lot of guesswork about these results, but the broad picture they give is unmistakable. There is no doubt that the indirect taxes of 1938 were 'regressive'; since they were mainly imposed upon articles of mass consumption (house room—local rates—alcohol and tobacco), the proportion of income taken in indirect taxation *increased* as one went down the scale. While the two upper groups paid 10–12 per cent. of disposable income (as shown in Table XI) in indirect taxes, the two lower groups may have paid 15 per cent. or a little more.

Thus when indirect taxes are allowed for, the equalizing effect of 1938 taxation was appreciably diminished. The burden of indirect taxation on the lower income-groups (especially those who did not 'abstain') was very heavy. But we should not fix our eyes on this heavy indirect taxation without remembering the social expenditure ('semi-public consumption' like free education and free health services) which have not previously been allowed for, and which are a substantial weight to set on the other side. Working-class payments of indirect taxes and receipts from social expenditure seem to have offset one another very nearly. It was therefore hardly right to describe that expenditure as a 'transference from the rich to the poor', an expression commonly used. Taking all expenditure together, the funds spent by the government for the benefit of the working class were hardly more than what was paid to it by the working class. What is true, on the other hand, is that the lowest income-group had been almost entirely relieved of the necessity of making a contribution to the general expenses of government; the costs of maintaining the State, of running an organized community, were almost entirely met by the middle class and the wealthy. This was in itself a great social achievement, whose magnitude will be appreciated when it is remembered that the general practice of most communities in the past has been for the State to be supported almost entirely from contributions levied mainly on the poor.

It is impossible, at present, to make a similar calculation for a post-war year. Though the development of food subsidies has lowered the burden of *net* indirect taxation on the lower income-

[1] Shirras and Rostas, *The Burden of British Taxation.*

groups, the enormous increase in the taxes on tobacco and alcohol has worked in the opposite direction. The net effect of *direct* taxes and transfers has been shown above to have been favourable to the lowest income-group; it is possible that the net effect of indirect taxes, subsidies, and 'semi-public consumption' was also slightly favourable. But one cannot be sure.

The comparison between real disposable incomes (after all allowances have been made) is a little easier. There is no doubt that changes in the relative prices of different goods (many of which are consequences of changes in indirect taxation and of food subsidies) have caused the cost of living to rise less for the lower than for the upper income-groups. It has been estimated[1] that a family which spent £200 per annum in 1938 would have found the 1949 price-level with which it was confronted 77 per cent. higher; while one which spent £700 in 1938 would have found the 1949 price-level 100 per cent. higher. These differences can be allowed for when reading Table XI.

It follows, taking all things into account, that there has quite certainly been a levelling of incomes. Perhaps it is not much, after all the pother; but it is clear and unmistakable. It is so unmistakable that we may be tempted to attach too much importance to it, and to put too much confidence in it. The year 1949, which we have been studying, was in some respects a favourable year—though the devaluation crisis, which came near the end of it, was a symptom which showed that more difficult times were at hand. The gain to the lower income-groups, which was so unmistakable in 1949, is not proving easy to maintain. Some of the economic forces, which worked in favour of redistribution up to 1949, show signs of turning in the opposite direction. Some of the consequences of redistribution, such as its effect on saving and its effect on incentives, are adverse to the growth of production, and present dangers for the future.

It remains true that working-class standards of living are in the long run much more likely to be raised by increases in production (increases in total income) than by changes in distribution, which give more to the poor and less to the rich. It is true that there are some ways in which total income is increased by

[1] D. Seers, 'The Post-war Cost of Living' (*Bulletin of Oxford Institute of Statistics*, June 1950).

more equal distribution, but there are other forces which work in the opposite direction, and it is hard to be sure which will predominate. It is true that if the security which comes from the possession of even a small reserve of savings can be spread more widely through the population, it will be a great gain. But for the rest, the inequality of incomes is more a social problem than an economic one. Inequality of income is the form taken in our society of a more fundamental inequality—the inequality of power. Inequality of power persists in all societies, it is indeed difficult to see how society could be organized without it. It has taken many forms in the course of history—the control of the master over his slaves, of the feudal baron over his serfs, of the landlord over his tenants, of the employer over his workmen, of the party organizer over his members, of the State official over private citizens. As inequalities go, inequality of income is a relatively harmless kind; the mere fact that it is so easily capable of being catalogued and measured means that there are ways of keeping it in check. It is important that it should be kept in check; but it is still more important for the future of human freedom that we should not open the door to other devils in its place.

XVIII

FURTHER HORIZONS

There have been several occasions in this book (most frequently in the later chapters) when we have encountered questions, questions of great interest and importance, which we have been obliged to leave unanswered, or to answer in what was obviously a makeshift manner. There was a reason for this. Although the reader who has mastered what has been set before him will have learned a good deal of economics, the economics he has learned will be all on one side of the subject. A question such as that which arose in our discussion of the causes of inequality (why the national income is divided between wages and profits in the proportions that it is), such a question cannot be answered along the lines we have been following. The same applies to the reasons for the differences in the earnings of different kinds of labour, and to the reasons for changes in the terms of trade. We had to be very sketchy in our discussion of these matters, although they embody economic problems of the first importance. There are branches of economics which do deal with them in detail, but they are different branches of economics from that which we have been studying.

The relation between our branch (which might be called Social Accounting) and the rest of economics can be made clear by an analogy from another science. The study of the human body is divided into two main parts—anatomy and physiology. Anatomy deals with the structure of the body, the various organs and their relations, the plan of the organism as it is discovered by dissection after death. Physiology is concerned with the working of the organism—the living body as a going concern. What we have been studying in this book is economic anatomy, the structure of the body economic, as it can be discovered by statisticians working on figures collected *after the event*. Only very casually have we learned anything about economic physiology—the way the economic system works. Yet economic science cannot get on without its physiological

branch;[1] there are indeed many books on elementary economics which deal with little else. It is only as a result of the great advances made in social accounting during the last twenty years that it has been possible to write a book like this which concentrates on the 'anatomical' side; the 'physiological' side was developed earlier, and most elementary books follow that earlier tradition.

I hope the reader will have found that our 'anatomical' method has told him the answers to a good many of the questions he wanted to ask about the economic system when he began his studies; I do not think that so many important questions could have been answered so speedily in any other way. Yet in spite of that it must be insisted that the field we have been covering is only one side of economics; to treat it as more than that would lead to serious error—error of a sort that has been only too common in recent years.

It is easy to look at the social accounts, and to say that the country is getting into trouble because it is not producing enough, not saving enough, not exporting enough, or importing too much. Speeches are then made exhorting people to produce more, save more, export more, or import less. We have had plenty of such speeches, and we have learned by experience that they are very ineffective. Even if, for instance, they are successful in persuading people to work harder, it rarely happens that it is possible for people to work harder without the extra effort having other effects than those intended. At the very least, more production is likely to mean more imports of raw materials; and it is not necessary that there should be more exports to balance. More often, the speeches have little effect of any kind; in order to have an effect, they would need to be backed by positive action, as, for instance, a change in some tax or subsidy, a change in prices, or the imposition of removal of some 'control'. All such action is liable to have effects which go beyond

[1] Since economic physiology cannot be based upon statistics collected after the event, and since it cannot perform experiments, it is inevitably rather more speculative than a science ideally should be, more of it is *theory*, and less of it is *applied economics*, than one could wish. But this seems to be in the nature of the case, and cannot altogether be helped. Although statistical methods for use on this side of economics have been, and are being, devised, the results obtained by their use are rather limited

the immediate purpose which was in mind. It is rarely possible to bring about an important change in one of the magnitudes which enter into the social accounts without changing several other magnitudes at the same time; it is not possible, until we have followed through these various effects to the best of our ability, to say whether the original decision will in fact have the effect on production or saving, on imports or exports, which was intended.

Many of the most important questions people want to ask about the economic system are questions of the type—*if such and such a thing were done, what would be the probable consequences?* Now hardly any of these questions can be properly answered from a knowledge of social accounting alone. Just as it is impossible to forecast the effect of performing an operation merely from a knowledge of the anatomy of the human body, so it is impossible to forecast the probable effects of an economic reform without having a knowledge of how the economic system works. Therefore, once the student has mastered the groundwork of social accounting, he must go on to the 'physiological' side of economics, whose centre is the theory of value. The mechanism by which the economic system works is the system of prices; the fundamental principles of price are what the theory of value studies.

Although the theory of value incorporates so important a body of knowledge, it is perhaps at first sight a less attractive study than social accounting is. The theory of value does reach important conclusions on great questions, but it has to spend a good deal of time on small and apparently trivial questions in order to get there. This is of course a common experience in science; the elementary stages of most sciences are trivial enough. One reason why I have written this book is because I think that a preliminary grasp of social accounting may make the elementary stages of the theory of value easier to bear.

I hope that the reader of this introductory book will finish it with a number of general questions in his mind—questions which were probably not there when he started, questions which have not been answered here, but which he would now like to have answered. Some of these questions may be of the

type we have just been discussing—questions of the probable consequences of economic changes. Some may be of other kinds. There are questions concerned with the organization of the economic system; we have seen that more goods and services were produced in some years than others, but could not still more have been produced in any year if things had been organized differently? Then there are questions about definitions. is it really necessary to classify things in the particular compartments we have chosen? could not the classifications be improved? (A very fundamental question of this last sort is the question whether the money measure of the national income can be justified; if a loaf of bread costs 3*d*., and a box of cough lozenges 1*s*., we have taken it that the cough lozenges represent the same 'product' as four loaves of bread.) Along some or all of these lines, the intelligent reader will want to criticize; but he has not been given much help towards criticizing. He will find that help if he pursues his studies in the theory of value.

At this point I take leave of the elementary reader, for whom this book has been primarily written. For the reason just stated, he will get a biased view of economics if he sticks any longer to the social accounting approach, without broadening out in other directions. But at some stage in his further study he will have to come back to social accounting, he will then want to approach it from a less elementary angle. He may still find it useful to look again at this book, when he will notice things he missed at a first reading. But at that stage he will want to go farther. The supplementary chapters, which I have put into Part V, may then provide something of what he needs.

PART V

SUPPLEMENTARY CHAPTERS ON SOCIAL ACCOUNTING

XIX

THE SOCIAL ACCOUNTING SYSTEM

1. ALTHOUGH this book is not intended to be more than an introduction to economics, it has gone a good deal further in one direction, that of the study of the National Income, than is usual in an elementary book. Having got so far, it is likely that some readers will want to go farther. They will want to get to the point where they can take the current National Income White Paper (that for 1952, or 1953, or 1954, as the case may be) and make some sense out of it. Not enough has yet been said to enable them to do that. Some further help will still be needed, and this is probably the place where it can best be given.

As was explained in Chapter XIV, the function of a modern White Paper is to provide a set of accounts—accounts of the whole nation as a going concern. That this is so has only been realized gradually; since there was no experience of the correct form in which a set of national accounts should be presented, it is not surprising that successive White Papers should have exhibited a great deal of tiresome rearrangement (very inconvenient to students).[1] Much of this rearrangement has been nothing else but a process of discovery, whereby the correct form has been gradually established. This process may, by now,

[1] Most of the differences in form between successive White Papers are due to this cause. But in addition to these differences in form, there are also differences in figures, due to the fact that information about the past only comes to hand gradually as time goes on. Thus the first figures for the year 1949, which appeared in the White Paper of April 1950, could be no more than provisional figures; by April 1951 extra information about 1949 was forthcoming and the 1949 figures were accordingly revised. Revision of this sort is indeed likely to go on to some extent for several years. The 1949 figures, given in this book, are those shown in the 1951 White Paper; it is not likely that those shown in later White Papers will be exactly the same.

be nearly complete; the time has therefore come when it should be helpful to set down, in simple terms, the main principles of social accounting, as they have developed over these years. With these principles in our minds, we shall be able to study the official figures with more advantage.

2. The best way of looking at the national accounts is to regard them as a consolidation (or combination) of the individual accounts of all the persons, businesses, and other concerns which compose the national economy. It is true that this is not the way in which the national accounts are actually drawn up; for since many of the individual accounts have never been put down on paper, it is impossible to proceed by combining what is not there to combine. What is done is to construct the combined account itself by indirect methods. But what the statisticians are trying to reach in this way are the accounts which would theoretically be reached by combination of individual accounts, if the individual accounts were available. Thus if we want to understand the national accounts, it is best to think of them as if they were constructed from individual accounts, in the theoretical way. The actual method of construction (though we have given, and shall be giving, some indication of it as we go on) is for the most part a matter of economic statistics rather than of economics proper, so that it falls outside the scope of this book.

The first thing which has to be done is to prepare the bricks out of which the structure is to be built, by constructing a standard form of accounts for the individual units out of which the national economy is composed. Much of this task has already been performed by professional accountants, and we can draw heavily upon their work at this stage of the argument. But though we can keep quite close to the standard accounting practice, we cannot follow it exactly in all respects. For the main job of the practising accountant is the preparation of the accounts of businesses (especially of businesses which are organized in the form of companies); our standard form has to cover the case of businesses, but it has also to cover other cases as well. Thus what we need is something a little more general than the standard form of the professional accountant.

The standard form of company accounts does, however, give us a good start It consists of (1) a balance sheet, showing the assets and liabilities of the company at a moment of time—or rather at two moments, the beginning and end of the year, (2) a set of running accounts, in which all the payments which the firm makes and receives during the year are duly classified. In the days before modern company legislation, an old-fashioned firm might content itself, under this last heading, with a mere cash-book, in which receipts and payments were set down without classification; but it is impossible to tell from such a cash-book, without examining each item separately, how the firm is really getting on. The modern firm accordingly splits up the cash-book items into a minimum of three separate accounts. These are (*a*) the trading account, which shows how profits have been earned—profits being shown as the difference between the value of sales and the expenses which have to be put against them; (*b*) the appropriation account, showing the distribution of profits and other income among shareholders and other claimants; (*c*) the 'capital account', which might be better described as a change-in-capital account, for it shows the differences in the balance-sheet items between the beginning and end of the year. The part which has been played by these three accounts in the argument of Chapter XI above will be readily recognized by the reader.

All receipts and payments of money have to find their places in one or other of these three accounts, but there are items in the accounts (taken separately) which do not represent payments of money within the year. These 'artificial' items are introduced in order to give the 'change-in-capital' account its proper meaning. When the three accounts are taken together, we must revert to the cash-book, so that when an artificial item is introduced on one side in one account, it must also appear on the other side of another account. Since the artificial items do not correspond to actual receipts or payments, they are less 'solid' than the other items. There is some room for judgement about the precise sum to be put down, though accountants are generally guided by conventional rules about them.

The most important of the artificial items is Depreciation. Fixed capital declines in value by use, quite apart from any

purchases or sales of capital goods. An entry for this requires to be made in the 'capital' account; the corresponding entry goes into the trading account. This is the artificial item of which the correct value is most uncertain. Another source of artificial items is the delivery of goods which have not been paid for at the end of the year; the value of these goods is entered in the trading account, and a corresponding entry made in the capital account.

These are the principles on which the accounts of a company are constructed. There is not much point in writing out these accounts in a formal manner at the moment, since we shall require to write them out very shortly, when we have submitted them to a little generalization.

3. The first thing which has to be done, in the way of generalization, is to ask: how can the accounts of the private person (or family) be fitted into a system of this kind? We can recognize, in the case of the family, something which can be regarded as a rudimentary balance-sheet; it may conceivably show nothing in the way of assets, save such things as furniture, and no liabilities to outside parties, but it could be put into balance-sheet form all the same If there can be a balance-sheet, it follows that there can be a 'change-in-capital' account. This may show no more than some small savings, and the purchase of more furniture out of those savings; but even if it goes no farther than that, it is in principle analogous to the firm's 'change-in-capital' account, so that an account of this sort is also quite recognizable. The other two accounts cause rather more trouble.

For much the most important account, in relation to the private family, is its income-and-expenditure account, which shows the family income on one side, and the allocation of that income between consumption and saving (and payment of taxes) on the other. At first sight the firm seems to have no account corresponding to this. But closer examination shows that the income-and-expenditure account of the firm is its appropriation account. The appropriation account does in fact contain items exactly corresponding to those which figure in the income-and-expenditure account of the private family. It is true that the

firm, not being a human person with wants, cannot consume; but it can pay taxes and it can save. The appropriation account shows it paying taxes, and saving, out of its income.

If the income-and-expenditure account is (at least in principle) 'fuller' in the case of the family than in that of the firm, the family account which corresponds to the firm's trading account is relatively quite rudimentary. When the members of a family are regarded as producing units,[1] the only form of production, which has to be attributed to them and which has not already been covered in the accounts of firms, is the direct supply of their own labour. Thus the 'earning account', as it had better be called, shows nothing in the way of sales but the supply of labour, and nothing in the way of expenses against these sales,[2] so that the wage received appears alone on the other side equalling the value of labour supplied. Such an account seems hardly worth writing down. Nevertheless, we require to write it down, for (as we shall see) it has a vital part to play in the system of social accounting.

Thus the system of accounts which accountants apply to the firm is in principle applicable to the family as well. The system can be transferred from the one use to the other without any substantial change. But what does seem awkward, in the application to the family, is the names of the accounts, which are natural enough in the case of the firm, but become very unnatural in the wider application we want to give them. It may therefore be suggested that for social-accounting purposes we should use a set of names suitable for the wider application. The names proposed in the following table seem to fit in well with modern usage.

In drawing up our table we need not worry about the balance-sheet, which does not relate to the year (or accounting period);

[1] When the family contains more than one wage-earner, it will require a corresponding number of separate earning accounts. This is analogous with what may happen with a firm, which carries on two or more distinct kinds of business, and may conveniently be given a separate trading account for each of its sections.

[2] It would be very reasonable to take into account the expenses for tools, travelling, &c , which are incurred by workers in order to earn their wages, and some of which are allowed as expenses for income-tax purposes. But the information available on this matter is so incomplete and inadequate that it is at present customary to leave it out.

it is the running accounts which are our concern. That leaves us with three accounts, each of which requires (*a*) an accountant's name, suitable when it is applied to the firm; (*b*) a name suitable when it is applied to the private family, (*c*) a general name suitable for either application. These would seem to come out as follows:

Standard system of accounts

	Applied to firm	*Applied to family*	*General name*
I.	Trading a/c.	Earning a/c.	Production a/c.
II.	Appropriation a/c.	Income-and-Expenditure a/c.	Income-and-Expenditure a/c.
III.	Capital a/c.	Saving-investment a/c.	Saving-investment a/c.

The general names will be used when we wish to refer both to the firm and to the private family, or to pass easily from one to the other; but they can also be used when we are concerned with the accounts of economic entities which fall into neither category. Such are (1) private 'non-profit-making' bodies, such as churches, universities, and charities; (2) the various organs of the State. These, like firms and families, can in principle have their three accounts of the above types.

4. Just as the set of accounts can be put into a standard form applicable to any entity, so the items entering into the accounts can be classified in a standard manner. These standard classifications have in fact been used in our discussion of the social income and output in Chapter XI above, so that a more formal arrangement will contain little that is new to the reader. The chief thing which is new concerns the financial relations between private entities and the State (taxes and such like)—a matter which was left out in Chapter XI, and was not fully discussed in Chapter XIII. Something can usefully be said about the place of taxes in these accounts before going further.

Although (as has been explained in Chapter XIII) the taxes paid to the State are used to finance the production of useful things, many of them things which are directly or indirectly useful to the taxpayer himself, it is the distinctive feature of a tax (as against a purchase) that there is no clearly discernible

relation between the payment by the taxpayer and the services received in exchange. Thus, from the accounting point of view (though in this case that may not be a very profound point of view), it is impossible to regard a tax as a payment for goods and services rendered; it is much easier to regard it as something analogous to a gift from the taxpayer to the State. We cannot exactly reckon it as a gift, for the nature of a gift is that it is voluntary, while a tax is compulsory; but gifts and taxes can both be regarded as instances of a wider class of transactions. Though the word has not always been strictly employed in this sense, the natural word for this class of transaction is *Transfers*; we shall therefore say that a gift is a voluntary transfer from one private entity to another, a tax is a compulsory transfer from a private entity to the State.

The State uses the transfers made to it, as we have seen, partly to finance the performance of services of general public usefulness, which can be reckoned as a form of public 'consumption', partly (as any entity may have to do) to pay interest on its debts, and partly to make transfers in the other direction. For if we are reckoning taxes as a transfer (or as a kind of 'gift' made to the State) then we must certainly also reckon the subsidies and grants which the State pays out as transfers from the State to other bodies. From the accounting point of view, they are clearly the same kind of thing.

Where do transfers fit into the system of accounts? This is a very awkward point, which gives us a great deal of trouble. It would evidently be convenient if we could get all the transfers into one of the three accounts, so that the others would be untroubled by them; and if this could be done, it is in the income-and-expenditure account that we should like to put them. But in fact it is very awkward to put all transfers into the income-and-expenditure account. Take the case of a rich man, who makes a benefaction, say, for the purpose of founding a college. He does this by transferring to the college, not a part of his income during the current year, but a part of his capital assets; the sum transferred may be much larger than his income in the year when the benefaction is made, so that if we deducted it from his income, we should have to say that his saving during that year was an enormous negative quantity, which would be

highly inconvenient, and does not accord with common usage. It is therefore necessary to distinguish between income transfers, which do figure in the income-expenditure account, and capital transfers, which do not appear there, but must be allowed for when we come to the saving-investment account. Unless we make such a distinction, we get nonsensical results. But unfortunately it is very difficult to give a firm test for distinguishing between income and capital transfers—the line between them is not at all easy to draw.

And this is not all. There are some transfers which get involved with the production account. When the government lays a tax upon the import of tobacco, the firms which import raw tobacco have to pay the tax when they import their raw material, so that the tax appears to them as an expense of production, an additional cost which they have to meet before arriving at their profits. Taxes which enter into the production account in this way are *indirect taxes*. Further, the transfers which enter into the production account do not all go one way. Nowadays, while the government taxes some sorts of production, it subsidizes others; subsidies, which are paid in proportion to the outputs of particular articles produced by particular firms, also enter into the production accounts of those firms. Thus both indirect taxes and subsidies may be called indirect transfers, as contrasted with the direct transfers (direct taxes and grants) which enter into income-and-expenditure accounts, and the capital transfers which only appear in saving-investment accounts.

5. We are now at last in a position to write the three accounts in their standard forms. When setting out these standard forms, we shall again find it convenient to make a slight modification in the usual accounting procedure. In order to make the structure of each account as clear as possible, we shall divide it into stages, each stage showing the construction of some significant item, which is then carried down to the next stage for further adjustment, or to be divided up. When the accounts are written in this way, they can be applied to any economic entity whatever (firm, family, charitable trust, or government department); though, of course, we shall find that in some special cases a good

many of the entries will be blank. The same form of accounts can be applied to the nation as a whole. Incomings are shown on the right, outgoings on the left, in the traditional book-keeping manner; the totals of the columns are not significant, but the two columns need to be added for each stage to ensure that the left-hand and right-hand sides are equal in value.

On this plan, the production account is divided into three stages:

Production account for any entity

Stage I	
Cost of materials and services used in production	Gross output of goods and services
Indirect transfers payable.	Indirect transfers receivable.
Residue.	
Stage II	
Depreciation.	Net output (or gross product) of entity (residue of preceding stage).
Residue	
Stage III	
Earnings of entity (profits or wages).	Net product of entity (residue of preceding stage).

In this case the division does no more than mark the central importance of the items which are carried down between the stages—gross product and net product.

The income-expenditure account is likewise divided into three stages:

Income-expenditure account for any entity

Stage I	
	Earnings.
Interest and dividends payable.	Interest and dividends receivable.
Residue.	
Stage II	
	Net income of entity (residue of previous stage).
Direct transfers payable.	Direct transfers receivable.
Residue.	
Stage III	
Consumption.	Disposable income (residue of previous stage)
Saving.	

In this case the first stage shows the adjustment of earnings through the receipt and payment of interest and dividends to get the net income attributable to the entity; the second shows the effect of transfers. Net income after transfers we call disposable income; and disposable income equals consumption plus saving.

The saving-investment account is divided into two stages:

Saving-investment account for any entity

Stage I	
	Saving.
Capital transfers payable.	Capital transfers receivable.
Residue.	
Stage II	
	Net investible surplus (residue of previous stage).
Gross investment.	Depreciation.
Net lending to other entities.	Net borrowing from other entities.
Accumulation of cash.	

In this case the first stage shows the adjustment of saving through capital transfers (if any) to get what we may call the net investible surplus. The second stage shows this net investible surplus being transmuted into net investment and net lending. It is convenient to show net investment as the difference between gross investment and depreciation (which thus appear explicitly on the two sides of the account); and net lending as the difference between lending and borrowing.[1]

6. The three accounts just written are the bricks from which the system of social accounts is constructed; we come now to the process of construction. This is always a matter of consolidation; that is to say, we take a group of entities and put their accounts together, producing a set of accounts (still the same three basic accounts) for the group as a whole. The putting together is largely a matter of addition, but since what we want is a set of combined accounts for the group as a whole, transactions internal to the group must be cancelled out.

[1] In the account as written, net lending (on the outgoing side) means new lending less repayment of old loans made by entity, net borrowing means new borrowing less repayment of old loans made to entity.

The process is exactly the same as that which occurs when a consolidated account for a group of companies is constructed from the individual accounts of the separate companies. Sales from one company in the group to another, loans from one company to another, interest or dividends paid from one to another, all become internal transactions once the group is taken as a whole. These transactions would appear on both sides (or as corresponding positive and negative items) if the accounts were simply added; but since it is identically the same transaction which appears on each side, the two entries are cancelled out in the consolidated account. This is precisely the process by which the social accounts are (in principle) constructed from the individual accounts.

The ultimate consolidation takes the form of a set of accounts for the nation as a whole, still consisting of the same three basic accounts. All the production accounts of individual entities are consolidated into a production account for the nation as a whole; all the income-and-expenditure accounts are consolidated into a national income-and-expenditure account, all the individual saving-investment accounts into a national saving-investment account. These final national accounts are the central part of the structure. But when consolidation has been carried as far as this, many things, which are of interest in themselves, and which can be measured to a sufficient degree of accuracy from the statistical information available, will have been cancelled out in the process of consolidation. A set of social accounts, as published, will therefore generally contain something more than the three accounts finally consolidated. The multitudinous individual accounts will be divided into groups (preferably quite a small number of separate groups); and consolidated accounts will be constructed for each group (or *sector* of the economy) separately. The social accounts will then take the form of a set of accounts for each sector, together with a combined account for the nations as a whole, all the sectors together.

The sectors can in principle be chosen in many ways, but there is one division into sectors which arises naturally in practice, and which is therefore particularly important. It more or less corresponds to our division of accounts into the accounts of firms, of families, and of public bodies. In technical language

these become the Business Sector, the Personal Sector, and the Public Sector. The boundaries between these sectors are not always very easy to draw. For instance, do one-man businesses come into the business sector or the personal sector? Do nationalized industries come into the business sector or the public sector? These questions cannot be settled upon any principle; they have to be settled on grounds of convenience, mainly (it must be confessed) statistical convenience.

If we accept the three-way division into sectors as being sufficient, the social accounts will consist of twelve (3×4) tables, a table of each sort for each of the three sectors, and a table of each sort for the economy as a whole. This is in fact more or less the system at which the White Paper on National Income, in its modern form, is aiming. The information available is not sufficient to enable all twelve accounts to be put down fully; there are still a few blanks. Nevertheless, for a country like Britain, the greater part of this standard system can be provided.

7. Enough has now been said to explain the essential structure of the accounts which we shall be examining in the following chapter. But before we pass on to study the figures, there are two further points which it will be useful to discuss here, so as to prevent them from giving us too much trouble when we come upon them in practice. One of these points is concerned with transfers; the other with the Balance of Payments.

In the standard system of accounts, which we have been describing, individual production accounts are combined in various ways, income-and-expenditure accounts in various ways, saving-investment accounts in various ways; but an account is never consolidated with an account of another kind. This is good accounting practice. For it is the accountant's job to classify business transactions into such compartments as will make the effects of the transactions understandable; once they have been classified, it is thoroughly muddling, and most destructive to the accountant's work, if they are mixed together again. In constructing social accounts, we should like to follow the same rule, and on the whole we do so; but there are a few cases where it becomes difficult to apply the rule, so that special

(and perhaps rather peculiar) measures have to be taken in order to enable us to keep to it.

Take first of all the case of capital transfers. A transfer which is regarded as a capital transfer by the donor and as a capital transfer by the recipient, gives no trouble, when the accounts of the two parties are consolidated, it cancels out, as it should. But suppose that the transfer is regarded as an income transfer by the donor, and as a capital transfer by the recipient; it will then be left standing in the consolidated accounts, as a transfer out of income on the income-and-expenditure account, and as a capital transfer received on the saving-investment account. But in fact it is an internal transaction which ought to cancel out. We can only make it cancel out if we doctor the accounts of one party or the other (it does not matter which). If we doctor the accounts of the recipient, we shall put the transfer, as an income transfer, into his income-expenditure account, and shall then reckon what he has called a capital transfer to be an addition to his saving.

In the light of this, consider the case of property passing at death. From the estate of the deceased, it reckons as a capital transfer; to the estate of the inheritor, it reckons as a capital transfer; there is no trouble here. But what about the part of the estate which is paid in death duties? The government reckons this as ordinary tax revenue, that is to say, as an income transfer. Thus, on the same principles, we shall only get a proper cancelling out if we doctor one of the accounts; in this case it is a matter of some importance which account is doctored, since the transfer is from one sector to another, so that what is done will show. Most people would say that it is the government account which ought to be doctored, so that the transfer would appear as a capital transfer on both sides. Which solution we adopt makes no difference to the total amount of saving which appears in the combined national account; but it does make a difference to the way in which the saving is divided between the personal sector and the public sector.

A much worse trouble of the same kind arises with indirect taxes (and other indirect transfers). An indirect tax is a tax which is paid, in the first instance, out of a firm's production account. But it is not transferred to a public production account;

it is treated like other taxes, going into the income-and-expenditure account of the government. Thus when the accounts of firms and government are consolidated together to form the unified accounts of the whole economy, we shall find (if we take no special precautions) that the indirect taxes are left as an outgoing from the national production account, and as an incoming into the national income-and-expenditure account, without being cancelled out, as they should be if the unified accounts are to make sense.

The anomaly arises, it should be emphasized, for no reason of principle, but simply because the indirect taxes have been classified in a different way in the accounts of the taxpayers and of the government. (The same difficulty arises, of course, in the case of subsidies, which are indirect transfers in the other direction.) The right way to deal with it must therefore be by some device analogous to that used in the case of capital transfers; we must doctor one account or the other so as to bring them into line.

The alternatives which now confront us have already been described in Chapter XIV. If we adopt one solution, we come to the national income at market prices; if we adopt the other, we come to the national income at factor cost. From the accounting standpoint, what we do if we adopt the first method is to regard the government as an 'invisible shareholder' of the taxpaying firm. The production account of the firm is then left undoctored, so that the value of the firm's output is shown at the prices paid by the people to whom the products are sold. It is the income-and-expenditure account of the firm which has to be doctored. The indirect taxes ought to be shown as being transferred, along with profits, from the production account to the income-and-expenditure account; they should be shown as being paid over to government along with the direct taxes.[1] This is the easiest way out of the indirect taxation tangle; it involves the statistician in fewer guesses than its alternative, so that it is being increasingly adopted. The trouble about it is that it does not make much sense. It makes the indirect taxes

[1] I have never seen this done in an actual set of social accounts; but something like it requires to be done if accounts 'at Market Price' are to square up properly.

appear to be paid by the firms which are the immediate taxpayers; but these taxes are not meant to be borne by such firms. They are intended to be passed on to the consumers of the taxed article, who are the real taxpayers the government has in mind. If the accounts of the nation are to show the indirect taxes as being paid by these consumers, the other alternative has to be adopted.

On this alternative it is the production account of the firm which is doctored. The indirect taxes (and subsidies) are taken right out of the production accounts. Since the tax is to be shown as being paid by consumers, the value of the firm's output must be shown *net of tax*—at the price which the consumer pays to the firm itself, excluding what he merely pays to the firm as an agent of the government. If all prices (including those paid for materials by one firm to another) are doctored in this way, the national product still contains the same real goods as before, but they are valued at prices which correspond to the prices paid for the services of factors of production (including the profits of capital). The national product is then said to be valued at *factor cost*.

If production accounts are shown at factor cost, no indirect transfers will appear in production accounts. But the sums paid by consumers for consumption goods (which figure in their income-and-expenditure accounts) will be shown divided into the part that corresponds to the factor cost of the goods, and the part which represents indirect transfers. Thus the indirect transfers will appear in the income-and-expenditure account alongside of the direct transfers, and will cancel out with the corresponding items in the government's budget when all income-and-expenditure accounts are taken together. The accounts have been made to square, and they do make sense; but in order to achieve these desirable objects, it has been necessary to engage upon a process of doctoring that is rather extensive.[1]

[1] Since some of the products whose prices have to be doctored will be purchased by firms who are making additions to their equipment (investment), the doctoring cannot in strictness be confined to the production and income-expenditure accounts, it may affect the saving-investment account as well Indirect taxes paid on new investment will appear, after doctoring, as capital transfers; the same problem as arose in the case of death duties will therefore arise again in this connexion, but it can be dealt with in the same way.

8. The last question which we have to consider is that of the balance of payments. The balance of payments account, which we examined in Chapter XII, does not figure among the twelve tables. What is its relation to them?

The answer is that we have here the only case when it is justifiable to infringe the principle of strict separation of the three sorts of accounts. For this one purpose we do find it useful, after the three accounts of the nation as a whole have been completed, to forget the principle of separation, and to put the three accounts together in a general mishmash. Suppose that the three accounts for the nation as a whole have been completed. Then take all incomings, whether on production account, income-and-expenditure account, or saving-investment account, and put them together; take all outgoings together in a similar fashion; cancel out all transactions which are made between entities reckoned as internal to the economy; what have we left? In a closed economy we should have nothing left, so that the procedure we are following would be completely futile. But in an open economy we do have something left; we are left with all the *foreign* transactions, transactions with entities not included in the *nation*, with the 'rest of the world'. The account which consists solely of these transactions must balance, because it has been constructed from accounts which were already balanced, merely by a process of cancellation. It is this account which is the balance of payments.

A full system of national accounts will thus include a table of the balance of payments, in addition to the twelve tables previously enumerated.

XX

THE SOCIAL ACCOUNTS OF THE UNITED KINGDOM

1. Let us now return to the figures which we examined in a preliminary manner in Chapter XIV; and let us re-examine them in the light of what we have now learned about social accounting. The National Income White Paper,[1] in its modern form, contains a quantity of detail which is becoming rather frightening in its complexity. But the core of the document is to be found in the final section, entitled 'Social Accounts of the United Kingdom'; in this section we find the *system* of social accounts, arranged in a similar manner to that which we have just been studying. But instead of the thirteen (12 *plus* 1) tables which are needed (so we have suggested) to form a standard system, no more than six are provided—which does not seem, at first sight, a very generous allowance. But things are not so bad as they seem.

One of the missing tables (an income-and-expenditure account for the whole economy) can be readily constructed from the information given. When this table is added, the nature of the remaining gaps stands out sharply. We have a complete system of accounts (production account, income-and-expenditure account, savings-investment account, and balance of payments) for the economy as a whole; but the division into sectors has only been carried through for one kind of account—the income-expenditure account. There is no doubt that this is the account for which a division into sectors is most instructive, but it would have been helpful to have had a division into sectors for the other accounts as well. There is, however, a special reason why this has presented difficulties.

The three sectors into which the economy is divided, for the purposes of the accounting system adopted, are business, personal, and public sectors as described in the last chapter. But the boundaries of the sectors have had to be defined in what is perhaps a peculiar manner. The business sector includes all

[1] All references to 1951 issue of the White Paper, as before.

companies, but it includes nothing but companies. Thus it does not include small businesses, such as shops and farms, which are left over to the personal sector; but it does include the nationalized industries, because they are organized in the company form, though the State holds all the share capital. Thus the personal sector (which we should like to think of as consisting, in the main, of workers and house-owners) does in fact include all the smaller businesses; a division of the production account, or of the savings-investment account, between personal and business sectors so defined would be difficult to make, and would not mean very much when it had been made.

In spite of the difficulty about nationalized industries, a division between the public sector (on the one hand) and the two 'private' sectors (on the other) is more attainable, and would be well worth having. In the case of the savings-investment account, enough information is provided in various places in the White Paper for us to be able to make our own division with fair confidence. The development of a production account for the public sector is impeded by the 'unorganized' character of so much public trading.[1] We shall therefore have to make do with an undivided production account, and with a saving-investment account that is only partially divided.

2. As the tables are printed in the Social Accounts section of the White Paper, the accounts are shown in their undoctored form; but information is given by means of which we can do the doctoring for ourselves. Here, since we want to concentrate upon the things which are of importance economically, and do not want to worry about statistical details, we shall show the accounts in their doctored form straight away. The following tables are therefore shown throughout *at factor cost* (that is, they have been doctored for indirect transfers); they have been doctored for capital transfers; and they have also been doctored for two further complications which we have avoided discussing up to the present, but which require a word or two in this place before we go farther.

The first of these complications arises out of another discrepancy of accounting practice between government and tax-

[1] See above, pp. 155–6.

payer. The sum which the taxpayer allots (or ought to allot) for payment of taxes is the amount which he is due to pay on his income (or profit) of the current year. But the sum which the government enters as revenue is that which it actually collects during the current year, and this often depends to some extent upon the taxpayer's income in a previous year. (Since the introduction of P.A.Y.E. there is no lag of this sort in the case of wage incomes, but in the case of profit incomes it can be quite important.) For a proper understanding of the economic position of the country, it is more important to consider the taxes *due* than those actually paid in the current year; to get this emphasis we leave the taxpayer's account undoctored, but we doctor the government's revenue to correspond with the amounts due to be received (provision for taxation). What this means is that we are supposing the government's accounts to be kept on a more 'commercial' basis than they are in fact.

The second point is the vexed question of 'Stock Appreciation'.[1] Changes in prices between one year and another can be dealt with, after a fashion, by the index-number technique which we described in Chapter XV. But the apparent profits and losses which are caused to manufacturing firms by changes in prices *during* the year cannot be allowed for in this way. Most economists consider that the social accounts make better sense (especially because the measure of the social product makes better sense) if a correction is made for these price-changes; this has accordingly been done, in accordance with the information which the White Paper provides. The year 1938 being one of falling prices, profits have had to be marked up a little for this reason; between the beginning and end of 1949 prices were nearly stable, so that the correction needed for that year is negligible.

3. The reader is now asked to examine Table XII,[2] which shows the Social Accounts of the United Kingdom, doctored in the ways just indicated, and written out in the standard form which was described in the preceding chapter. Opposite each entry there are two figures, of which the second is the 1949 figure (with which in many cases we are already familiar) while

[1] See below, Appendix, Note C. [2] At end.

the first is the corresponding figure for 1938, put in for comparison. This table should be worked through with some care, in the light of the following commentary.

The first account to be looked at is the Combined Production Account, put together (in principle) from the trading accounts of firms and public authorities, together with the earning accounts of workers, houseowners, and landowners. In the consolidation of these accounts all sales of materials and services from firm to firm, or from worker to firm, *within the national economy*, cancel out. The 'gross national output' therefore includes all sales of goods and services by persons, by firms, and by public authorities within the nation, excluding sales of materials and services which are purchased by other entities within the nation with a view to use in current production. Production includes trade; thus sales of imported goods by importers reckon, for this purpose, as part of the 'gross national output'.[1] What is left, after cancellation, out of all the materials and services used, is the cost of those materials and services which are *imported* from outside Since we are distinguishing imports on the left-hand side of the account, it is convenient to show gross output divided into 'gross retained output' and *exports* on the right-hand side. Output is valued at factor cost, so that indirect taxes do not appear in the production account. The 'residue' of the first stage in the production account is net national output, or *Gross National Product*.

The second stage in the production account shows the adjustment for depreciation (which is simply the sum of the depreciation items in the various accounts which have been combined).[2] Net national product is then carried down to the third stage, where it is shown as the source from which the earnings of the factors of production are paid. Here we can begin to classify by sectors. Company profits (accruing to the business sector)

[1] The White Paper makes difficulties for itself by refusing to reckon 'invisible imports', such as the expenditure of tourists on the Continent, as part of the British 'gross national output'. The simplification introduced by supposing that all such expenditure passes through the hands of an invisible 'Cook' (to whom we need not attribute profits he does not make) is very marked. I have, therefore, included these invisibles in Retained Output and marked the imports on the other side up by a similar figure.

[2] Some of the depreciation items, especially in the public sector, are open to much criticism. See below, p. 247 n.

appear as one item; the profits of government and local authority trading (accruing to the public sector) appear as another; while the earnings of the personal sector, in view of their heterogeneous character, are further divided. Rents are shown separately, wages and salaries include the pay of the armed forces;[1] the remaining earnings of the personal sector go down as 'mixed incomes' as before.[2] Since we do not possess separate production accounts for the sectors, this classification of earnings is not as good as it might be, but it will do for present purposes.

4. In the case of the income–expenditure account, we can begin by taking the three sectors separately. The income–expenditure account of the business sector (or Corporate Appropriation Account, as the White Paper calls it) shows what is done with the company profits. It also allows for the substantial amount of income received by companies from other sources: some interest paid to companies by the personal sector (on such things as mortgages and bank advances), a substantial amount of interest on public debt held by companies (paid by the public sector), as well as interest and dividends received from abroad[3] Against these we set the interest and dividends paid by the business sector (nearly all of which will be received by the personal sector). The residue, after these incomings and outgoings have been allowed for, is the share of 'net income before transfers' attributable to the business sector. After income[4] and profits taxes have been paid on this (Stage II) the residue is undistributed profits. These undistributed profits are the disposable income of the business sector; since the business sector cannot, as such, consume, its disposable income equals its saving.

[1] They also include employers' contributions to social insurance. See above, p 162 n.

[2] See above, p. 162.

[3] There are some rents included here, which ought to have figured among the earnings of the business sector, not of the personal sector where we have shown them But in the absence of separate production accounts there is no means of dividing up the rent item.

[4] These are income taxes paid by companies out of profits, they do not include taxes on dividends, which are 'deducted at the source' but reckon as income tax paid by shareholders, and appear in the account of the personal sector.

The next account shows, in a similar way, what happens to the earnings of the personal sector. Some of them will be paid out, as we have seen, in interest to the business sector; we have no figure for this, so are bound to offset it against the much larger amount received (*a*) in interest and dividends from the business sector; (*b*) in interest on government debt; (*c*) in interest and dividends received from abroad. Receipts from interest and dividends[1] are therefore shown *net*. When this receipt has been added to the earnings of the personal sector, we get its net income before transfers. To get disposable income from that, we have to subtract transfers to the public sector; (*a*) direct taxes; (*b*) national-insurance contributions; (*c*) indirect taxes on consumption, which we have decided to show as being paid by the personal sector, so that its consumption expenditure will be reckoned at factor cost. Then we have to add transfers received from the public sector, most of which are national insurance benefits, though some (family allowances, for instance) are not. Disposable income (net income after transfers) is then divisible into consumption[2] and saving.

Stage I of the public sector's income-and-expenditure account shows its earnings (taken down from the production account) together with some receipts of interest on one side, with interest paid out on public debt on the other. The residue of these, being the net income before transfers attributable to the public sector, is (as we know) a minus quantity—for it is the transfers alone which enable the government to pay its way. The scene is therefore transformed in Stage II. We have large transfers to the government in taxation, and nothing but the relatively small transfer from it (which we met in the account of the personal sector) on the other side. The disposable income of the public sector is therefore a large positive amount. Out of this disposable income the public sector meets its consumption (including semi-public consumption); the residue is public saving.

This is the general principle; there are, however, several

[1] Since rents have been included in the *earnings* of the personal sector, they have been deducted from the figure of 'Rent, Interest and Dividends (net)' which the White Paper puts in at this point.

[2] As always, personal consumption includes all consumers' expenditure, on durable-use as well as single-use goods, excepting the purchase of new houses.

peculiarities about this public sector account which require notice, and not all of them will be familiar to the reader. With one exception, the taxes which are shown to be received in this account are those which are shown to be paid in the accounts of the other sectors, this is necessary if the accounts are to square, but it means that a number of tax receipts which the government would ordinarily reckon into revenue are excluded. Death duties, for instance, we have decided to reckon as capital transfers, so that they will not appear here; and there are certain forms of government expenditure which are excluded for the same reason. Indirect taxes on investment goods are also to be regarded as capital transfers;[1] and such indirect taxes as fall upon goods purchased by the government (so that the government pays them to itself) have to be excluded altogether when government consumption expenditure is reckoned at factor cost. This leaves us with the indirect taxes on personal consumption (as shown) together with a small amount which falls, rather unintentionally, on exports.

When government revenue is reckoned in this way, it will evidently differ a good deal from revenue as ordinarily calculated; the public saving shown will differ correspondingly from the usual 'budget surplus'. One of the things which modern social accounting has done has been to cast much doubt on traditional ideas of measuring a budget surplus; public saving, as we have been defining it, has more significance from the economic point of view than the traditional budget surplus, but it does not answer all the questions which people think of the 'budget surplus' as answering. There is indeed no single figure which does so.

5. The Combined Income–Expenditure account is now put together from the income–expenditure accounts of the three sectors. This is a good example of the process of consolidation; it will thus be useful to check it through carefully, taking each 'stage' by itself.

In Stage I the total earnings of the three sectors (which have been shown in Stage III of the production account to equal the net national product) are adjusted by payments of interest

[1] See above, p. 237 n

and dividends to give the *National Income before Transfers.* Interest and dividends paid by one sector to another within the nation cancel out, so nothing remains to be reckoned but what is received from (or paid to) abroad. Thus the national income before transfers is shown as the sum of net national product and net income from foreign assets.

In Stage II, which is the adjustment for transfers, it has usually been supposed that all transfers would cancel out, so that the national income would be the same whether it was taken before transfers or as disposable income after transfers. Our table shows that this may not be strictly correct; for there is the small item of indirect taxes falling on exports, which has to be allowed for when we are reckoning national income *at factor cost.* It is logical to regard this as a tax paid by foreigners, so that it creates a slight discrepancy between the two senses of *national income.* (If the country was receiving—or paying—a tribute such as 'reparations', it would fall under the same heading.)[1]

It is the national disposable income which is *the* national income for most purposes; Stage III shows it divided up into the consumption and saving items which come into the sector accounts.

6. We now turn to the saving-investment accounts. In this case, as was explained, we cannot show an account for each

[1] I am afraid that some of my readers, even those most instructed, will regard the above as a piece of pedantry. But it is an inescapable result of the decision to value the national product at factor cost. For though we could say (quite arbitrarily) that the factor cost valuation did not apply to exports, we should not avoid the difficulty in that way; we should still have to decide what was to be done with the proceeds of the taxes which fell on exports. To reckon them, as the White Paper has sometimes done, among the profits of the public sector, is confusing, to put them among the profits of the business sector is worse. There really is no clean alternative to the treatment here recommended.

It may be asked why it is that we show transfers from abroad as a result of indirect taxes falling on exports, but no transfers to abroad as a result of indirect taxes imposed by foreign governments. If we were doing the accounts of the whole world at factor cost, this is indeed what we should have to do. But for *national* accounts, we are not interested in the taxes imposed by foreign governments. All that concerns us is the payment the country has to make for its imports, just who it is who receives that payment does not matter. Thus it is logical to value imports at the prices the country has to pay for them, even if we value exports at factor cost

sector separately; we can show an account for the public sector separately, and a joint account for the other two sectors taken together, but that is as far as division can be carried. Even this division is rather precarious; it is not formally made in the White Paper, so that the tables have had to be put together from odds and ends of information, which do not tell one everything one would like to know.[1] But in this field, even when one has official figures, they are none too certain; the most that we can hope for is that the general impression given by the table is correct.

It will be convenient to begin with the account of the public sector. Stage I of the public sector account covers the adjustment for capital transfers. In 1938 these were simple: there was nothing to go down except the payment of death duties from the personal sector, together with indirect taxes which fell on home investment. In 1949 they had become very complicated, being indeed a striking expression of the involvement of British finances in that year. Transfers from the personal sector included the 'Special Contribution'—a once-for-all extra income-tax not intended to be paid out of income—as well as death duties; there was a big transfer to the private sectors in the form of War Damage Compensation. Then there were big capital transfers from abroad (Marshall aid and gifts from Dominion governments) and to abroad (payments arising out of previous agreements made on the occasion of devaluation in September 1949). Public saving, after these adjustments have been made to it, becomes the net investible surplus of the public sector.

The right-hand side of Stage II shows depreciation[2] added to the net investible surplus to give the gross investible surplus of the public sector. The left-hand side shows the gross invest-

[1] Thus we have no figure for 1938 gross investment (or depreciation) by the central government; only the local authority figure, doubtless much the larger part of the total in this case. Thus while 1949 figures are for central *plus* local, 1938 are for local only. Another difficulty is that there is no way of dividing the indirect taxes falling on investment between the sectors, I have shown them all falling on private investment, but this is not strictly correct. Neither of these shortcomings is really serious.

[2] Public authorities do not make regular depreciation allowances in the commercial sense. The depreciation item in the accounts of the public sector is a combination of maintenance expenditure and payments into sinking funds. This is unsatisfactory, but it is the best that can be done at present.

ment of the sector, which was greater than the gross investible surplus in 1938 (so that the public sector was on balance a borrower), but was greater than the gross investible surplus in 1949 (so that the public sector was on balance a lender). Since the custody of the nation's monetary reserve, which used to rest with the Bank of England, is now vested in a purely government body (the Exchange Equalization Fund), it is best to reckon the loss of international reserves, which occurred in both years, as an item in the account of the public sector. The net borrowing (or lending) of the sector, as shown, is that which resulted after the loss of international reserves had been allowed for.

The saving-investment account of the 'private' sectors shows the corresponding capital transfers in Stage I; no further comment on these is required. The gross investible surplus is divided in Stage II into gross investment and the balance which is net lending.

In the combined account, as before, all payments between sectors cancel out, leaving only the foreign items. The only capital transfers which appear in Stage I are the capital transfers to and from abroad. The net lending (or borrowing) which appears in Stage II is the difference between the lendings and borrowings which appear in the accounts of the sectors. It can be nothing else than net lending (or borrowing) abroad.

7. When the social accounts are set out in this form, the combined accounts (in which the foreign items have been clearly distinguished) already tell us a great deal about the balance of payments. Nevertheless, it is helpful to show a separate balance of payments account, which is reached (as was explained in Chapter XIX) by putting the three combined accounts together, and striking out all the internal transactions, which necessarily balance. This account is conveniently written in two stages. The first stage includes the external items from the combined production account and combined income–expenditure account; the residue of these items, which could be described (if we like) as 'saving externally available', is the balance of payments as defined in Chapter XII. The second stage consists of the external items from the combined saving-investment account; it

shows how the balance is used (or, if negative, covered). The individual items which appear in this table have all occurred in earlier tables, and have been commented on previously.[1]

[1] It will be noticed that in this treatment the balance of payments remains equal to the difference between national income (in strictness, national disposable income) and net retained output (gross retained output less depreciation) This is a very useful relation, which it is essential to retain. But the particular figure which we give for the balance of payments (and the figure which we give for national disposable income) depends upon the line which is drawn between income transfers abroad and capital transfers abroad; and where we draw this line is to some extent a matter of taste. Regular and reliable payments, especially when they are a matter of right, should clearly be treated as income transfers, those which have special relation to a particular emergency are best regarded as capital transfers These rules take one most of the way, but they do not settle the issue in all cases that may arise.

XXI

1938 AND 1949

1. ONE thing still remains to be done—to give some illustration of the uses which can be made of a system of social accounts such as we have been describing. Most of these uses are for purposes of comparison. The accounts of one year alone tell us little, since we have no standard by which to judge them; but as soon as we have several years before us, we do have a basis on which judgements can be made. It was for this reason that the 1938 figures were inserted, alongside the 1949 figures, in Table XII. Though the main practical use of social accounts, as of business accounts, is for the comparison of one year with the year following it, there is no pair of successive years, which is available for study, and which could have so durable an interest as the pair we have chosen to take. It is more dangerous to compare two years which are separated by a decade, than to compare two successive years; the decade separating our years was so eventful that we shall need to be specially careful. Nevertheless, just because the decade was so eventful, the changes between our years stand out unmistakably. We shall have to be careful about interpreting them, but there is no doubt that they are worth discussing.

Before we can begin the comparison, a couple of preliminary points require to be made. The first of these concerns our old bother, the factor cost and market price measures of the national income. When we first made this distinction (in Chapter XIV) it was explained that valuation at factor cost was necessary in order to show the burden of indirect taxes falling where the government meant it to fall—on the consumers of the finished product. This sounds sensible; but I imagine that there will have been readers of this book who will have wondered, even then, whether the refinement was worth the trouble. Their doubts will have been enhanced by the discovery (made in Chapter XVI) that since the available index-numbers of prices are index-numbers of market prices, not factor costs, it is necessary to use the *national income at market prices* whenever we want to make com-

parisons of national income, from year to year, in real terms. And the further discovery (in Chapter XX) that valuation at factor cost involves a good deal more calculation (and a great many more guesses) than valuation at market price, may have seemed to clinch the objection. Why do we want to worry ourselves with factor cost at all?

In spite of all these difficulties and objections, there is a good reason for doing so. Whenever we want to study the division of the national income between one use and another—the division between capital and labour, between rich and poor, or between consumption and investment—it is the proportion of the nation's resources which is devoted to satisfying the one set of wants or the other which is what matters; and this proportion is what is shown by the valuation in terms of factor cost. A simple example will make this clear. Suppose that it were to be the case that rich people spent all their extra incomes on whisky. Their total expenditure might be very large, but if they were to be deprived of the means of making this expenditure, only a very limited quantity of resources would be set free to satisfy the wants of more abstemious people. The principal result would be a considerable loss of revenue to the government from the duty on spirits; this loss would have to be made up in some way before anything much was available to be used for other purposes.

Now most of the uses of the social accounts are in fact of this type. Even when we are making year-to-year comparisons, what we want to compare are the proportions of resources devoted to one purpose or to another. All such comparisons only make sense if they run in terms of factor cost. The market-price valuation is easier statistically, and it is therefore quite reasonable that it should be used by official statisticians, when they want to give us the facts with as little guesswork as possible. But when we seek to put the statistics into a form which will answer the important questions, it is the factor-cost measure which is the one we shall most generally want.[1]

[1] It may indeed be questioned whether the factor-cost measure, as ordinarily employed, comes anywhere near to being a true measure of resources employed, in the sense required. (See Kuznetz, 'Valuation of the Social Income', in *Economica*, 1948). It must be admitted that there are many ways in which it is an imperfect measure. A good illustration of its

The only important *use* of the market-price valuation is for the comparison of the *real value* of the national income (or of any part of the national income) at different dates. This is the comparison which we were making in Chapter XVI. Here, however, we shall avoid making that comparison; for it can hardly be made, for the years with which we are concerned, without misleading results. In 1938, any of the goods on the market could be bought by any person who had the money to pay for them; in 1949 there was a large class of goods for which this had ceased to be true. This difference makes it exceedingly difficult to compare real incomes;[1] when we add the further difference, that there had been a great change in the distribution of incomes, it becomes clear that comparison of average real incomes has almost ceased to have any meaning. Between one post-war year and another, such comparison can perhaps be made; between pre-war and post-war it is better avoided.

We shall therefore do the right thing if we stick to the factor-cost valuation; but we do not end our difficulties by deciding to do so. For (as will be obvious from the most casual inspection of Table XII) there had been a large change in money values between our two years. Almost every item appears much larger in 1949 than it did in 1938; but mere rise in money value is no evidence of a significant increase in real terms. In order to make any sensible comparison, these changes in money values must somehow be eliminated. If we are unwilling to eliminate them by reducing the figures for the two years to a common measure,

inadequacy is to be found in the case of employers' contributions to social insurance, are they, or are they not, a part of factor cost? There is no sure answer to such questions; we can do no more than establish conventions about them. It must nevertheless be contended that indirect taxes and subsidies, when they are used in the ways they have been recently used in Britain, cause a systematic divergence between the market prices of certain important goods and their factor costs, however reckoned. Unless we make some allowance for this systematic divergence, our impression about the allocation of resources among uses must be appreciably wrong.

[1] As between two dates at both of which consumers can spend their incomes freely, valuation at market prices has a further justification, for the comparison of real incomes, which we have not mentioned. The market prices which confront the representative consumer do then indicate the choices which confront him. To compare the change in his income relatively to the change in market prices does therefore give some indication whether his position has changed in a favourable direction or the reverse. Between 1938 and 1949 no such comparison can be made.

we must look round for some other means of elimination. There is only one alternative which seems to be open. We must look at the *proportions* in which various significant magnitudes are divided in the two years. If these proportions are carefully chosen, they should give us what we want; we can choose them in such a way as to avoid misleading impressions as far as possible.

I do not think it is possible, as it might be in an easier case than that which is before us, to choose some particular item as central (say the gross national product, or the national disposable income), and to express all other items in terms of that. There are too many weak points, and too many odd points, in the table, for any such uniform treatment to be at all safe. It is better to proceed by a series of special comparisons, choosing the proportions which can be most suitably compared in order to bring out each particular point. We can then avoid being troubled by the weak points, excepting for those particular comparisons for which they are most relevant.

2. Let us accordingly proceed to work through Table XII on this method. Beginning, as before, with the combined production account, we can start by taking Stage I of that account separately. 'Gross national output' was there shown divided into gross retained output and exports on one side, into imports and gross national product on the other. With all figures written as percentages of 'gross national output', this stage would be written as follows (the two figures opposite each item being the 1938 and the 1949 figure as before):

Imports . . .	16	17	Gross Retained Output	88	83
Gross National Product	84	83	Exports . . .	12	17
Gross National Output.	100	100		100	100

Thus the percentage of imports in the cost of the gross national output was nearly the same in the two years. It appears to have risen slightly, but when we remember how high were the prices of imports in 1949 relatively to other prices (see Table VIII on p. 202), we shall not expect to find that this means any *real* expansion of imports. In fact, when the value of imports is

reduced to real terms by adjustment with an index-number of *import* prices, the volume of 1949 imports (in this sense) is found to be no more than 84 per cent. of the 1938 volume.[1] One of the major troubles of 1949 was that the country found itself obliged to get along with a much smaller volume of imports than before the war.

The prices of exports, just because they are British goods, are likely to be more in line with other British prices than the prices of imports may be. Thus the export percentage, as shown above, gives more or less the right impression without special attention to price changes being necessary. That the export percentage has gone up from 12 per cent. to 17 per cent. is decidedly significant. Considerably less of the nation's 'gross output' was *retained* than before the war. The main reason why it was necessary to increase exports in this way is clearly that post-war Britain had to pay exports for nearly all her imports, while pre-war Britain had her substantial net income from overseas assets to serve as a cushion. But we shall be returning to this matter when we come to consider the balance of payments, at the end of the story.

Stage II of the production account is concerned with the allowance for depreciation. It is well to mark this as a separate 'stage', since (as explained previously[2]) the depreciation item is always artificial, and in 1949 it was very artificial. A machine which had been purchased by its present owner before the war, was still having the same conventional percentage of its original cost written off as depreciation; but if this allowance had been a fair measure of a year's wear-and-tear before the war, it could not have been a fair measure at the higher prices ruling in 1949. If one-twentieth of the machine wore out every year, the one-twentieth would be worth more in 1949 than it was in 1938. Partly in recognition of this difficulty, and to meet consequential claims that the profits on which taxes were levied were set too high, the government had given 'initial allowances',[3] not based

[1] These are 'visible' imports only. No way of calculating the *volume* of 'invisibles' is known.

[2] Above, p. 225. See also, Appendix, Note C.

[3] Initial allowances were introduced in 1945, increased in 1949 and withdrawn 'during rearmament' in 1951. The depreciation item in future White Papers may require watching

on the amount of equipment in use, but on the amount of new equipment being put in. These initial allowances are included in the depreciation figure shown, though they have nothing to do with true depreciation. It does however happen that the 'depreciation', which is calculated in this roundabout and (for our purposes) unsuitable way, amounts to 9 per cent. of the gross national product in 1949, as against exactly the same 9 per cent. in 1938. That the proportion should be more or less the same at the two dates is not at all unreasonable. We may therefore accept the official figure as being good enough for our purposes, though we are unimpressed by the information, or lack of information, which lies behind it.

Stage III of the Production account gives us the division of the net national product among the earnings of the factors of production. This is the first of our major divisions. Percentage-wise, it comes out as follows:

Wages and salaries	64	67
Rents	9	5
Mixed incomes	13	12
Company profits	13	15
Public profits	1	1
Net national product	100	100

Much the most remarkable feature of this division is the fall in the proportion going to rents. Most of this is due to rent control, which has prevented the rents of houses from rising in money terms, so that they have fallen enormously relatively to almost all other prices. There seems to be a slight fall in the relative share of mixed incomes (in spite of the rise, which has undoubtedly occurred, in the share going to farmers). There is some rise in the share going to wages and salaries, less (perhaps) than we might have expected, but enough to absorb the major part of the fall in the share of rents Lastly, and at first sight a little surprisingly, there is a rise in the share going to company profits.

As mentioned above,[1] the forces governing the share of profits in the net national product are not very fully understood; but when we remember that 1949 was a year of high employment,

[1] See p. 209.

while 1938 was a year of (mild) depression, it becomes less surprising that profits should have been easier to make in the later year. And before we form any judgement on these high profits, we should look across to the income-expenditure accounts, in order to see what happened to them.

3. The first thing which emerges from the income-expenditure account of the business sector is that the total income of companies (including interest received from other sectors and income from abroad) had not risen in the way their *profits* appear to have risen when taken alone. The excess profits taxation imposed during the war had prevented companies from accumulating much government debt, except in exchange for other assets (such as foreign assets) which they had lost during the war; and the government debt brought a lower yield than the assets it replaced. Thus the total income of companies, expressed as a percentage of *national income before transfer* (which in this case is the appropriate comparison) was a little less than 19 per cent. in each case. The gain on the side of profits just balanced the relative loss on the other side.

In order to see what happened to this company income, it is best to take the three stages of the business sector's account together, and to work out the percentages of total company income which went in the three ways that are shown. The result is as follows:

Distributed to shareholders and bondholders	63	44
Paid in company taxation . . .	11	32
Undistributed profits after tax . . .	26	24
Total company income	100	100

Inflation is bound to reduce the percentage going to bondholders, whose claim on profits is fixed in money terms; but in the absence of increased taxation it might have been expected that shareholders would have gained to a corresponding extent. In fact, the increase in taxation has been so great that the percentage going to shareholders also has been considerably reduced. Since total company income was roughly the same proportion of national income before transfers in each of our

years, the proportions of the national income going in each of these ways will have changed in an exactly corresponding manner.[1]

The great reduction in the share of company income going to shareholders and bondholders, together with the reduction in the share of rents, means that the proportion of incomes from property (excluding mixed incomes) in the total of all personal incomes is bound to have fallen sharply, with a consequential rise in the proportions of the other incomes. This is what we find in the income-expenditure account of the personal sector. Dividing up the *earnings* of that sector, in accordance with the information given in the Production account, we find that the percentages of *personal income before transfers* were as follows:

Wages and salaries	63	72
Mixed incomes	13	13
Rent, interest, and dividends	24	15
Personal income before transfers	100	100

On these personal incomes taxes have to be paid, and transfer incomes are receivable. As percentages of personal income before transfer, the taxes and transfers come out as follows:

Direct taxes	$6\frac{1}{2}$	$11\frac{1}{2}$			
National-insurance contributions	$2\frac{1}{2}$	$4\frac{1}{2}$			
Indirect taxes (net)	11	13			
Total taxes	20	29	Transfer incomes received	6	7
Disposable income	86	78	Personal income before transfer	100	100

Transfer incomes are only slightly up, so that the increased weight of taxation (under all three heads) lowers disposable income very greatly.

[1] It is interesting to notice that it is the increase in income-tax which has had this startling effect, much more than the profits tax. To take some simple figures, which bring out the point suppose that companies desire to retain (for development or reserves) 24 per cent. of their profits throughout. Then with income-tax at 5*s*. in the £, they can distribute 68 per cent , pay one-quarter of the remainder in income-tax, and still have their 24 per cent. left. With income-tax at 10*s*. in the £, even with no profits tax, they can distribute no more than 52 per cent , for one-half of the remaining 48 per cent. has to be paid in tax. Taxation of this sort runs on quite a high 'gear'.

Can we say anything about the way in which disposable income is divided between the categories? The White Paper gives us information about the division of direct taxation (including national-insurance contributions) between wages and salaries, on the one hand, and all property incomes (including mixed incomes) on the other. It is reasonable to assume that the transfer incomes become disposable to the *wage and salary* group. About the distribution of indirect taxation, we can only guess. When we met the same problem in Chapter XIV, we shied off it; here, where our main purpose is to illustrate changes, it may be well to be a little bolder. We shall therefore assume that wages and salaries pay a larger percentage of income in indirect taxation than the others do, but that this bias has slightly declined between our two years. This seems plausible, and would give something like the following result:

Wages and salaries	67	76
Other incomes (including mixed incomes)	33	24
Total personal disposable income . .	100	100

The change must have been more or less of this character.

In view of this great change in the distribution of disposable incomes, and of the lopping-off of the higher disposable incomes,[1] from which saving is easiest, it would have been reasonable to expect a great fall in the percentage of personal disposable income which is saved. The White Paper does show a fall (from $5\frac{1}{2}$ to $4\frac{1}{2}$ per cent.), which is significant, but less than might have been expected. It should, however, be emphasized that this is not one of the figures in which most confidence can be placed.

4. Instead of working through the account of the public sector in this percentage-wise manner, it is most instructive to turn at once to the combined income-expenditure account, and to examine the distribution of the disposable income of the whole nation. This is the centre of the whole structure. If we allow ourselves to make use of the guess just made about the distribution of personal disposable incomes, the account of the

[1] See Ch. XVII above.

national disposable income (national income after all taxes and transfers have been allowed for) comes out in the following very significant form:

Personal consumption	79	69	Wages and salaries	56	55
Personal saving	4	3	Personal income from property (including mixed incomes)	27	17
Business saving	5	5	Undistributed profits	5	5
Public consumption	15	19	Public disposable income	12	23
Public saving	−3	4			
National disposable income	100	100		100	100

The great change, on the income side, is the enormous increase in public disposable income and the corresponding reduction in the share of personal incomes from property. Since this latter figure includes mixed incomes (and there cannot have been any great contraction in the share of mixed incomes as a whole), the proportionate fall in the share of property incomes —in the narrower sense—must have been even steeper Since it is impossible to suppose that the fall in these incomes does not account for the fall in saving, consumption out of property incomes must have declined a little less. But by far the greater part of the decline in the share of personal consumption must clearly be attributable to the property incomes. The figures would make no sense in any other way.

Public consumption has risen much less than the rise in public disposable income, so that there is an enormous rise in public saving, from a substantial negative amount in 1938 to a substantial positive amount in 1949. But before we decide on the exact significance of this change in public saving, we must look at the savings-investment accounts.

5. These accounts, especially in 1949, are decidedly tricky. We shall begin by drawing such lessons as we can from them as they stand, and shall then give some warnings about their interpretation.

In the saving-investment accounts, as the reader will remember, we can make no distinction between the personal and business sectors, so that we have only two sectors, 'private' and

public. We therefore begin with the following figures, drawn from the preceding table:

(as percentages of national disposable income)

Personal plus business saving .	9	8
Public saving . . .	−3	4

At the first round, we have to allow for the capital transfers. The net effect of capital transfers from the 'private' to the public sector was to transfer two 'points' from private to public in 1938, but only one 'point' (death duties being so largely offset by war-damage payments) in 1949. If these transfers were all that had to be considered, the net investible surpluses, as percentages of national disposable income, would therefore be as follows:

Personal plus business sectors .	7	7
Public sector . . .	−1	5

These figures are correct for 1938; but in 1949 the public sector was receiving net capital transfers from abroad, which put its net investible surplus (as a percentage of the national disposable income) up to 6½.[1] Thus while in 1938, government was borrowing a part of the investible surplus of the private sectors in order to finance its deficit, in 1949 the net investible surplus of the public sector was almost as large as that of the private sectors. What was done with these surpluses?

In order to answer this question, we must look at the Investment which is attributed to the two sectors (as they have now become). Here we at once have further trouble with the artificiality of depreciation allowances Though the White Paper *figures* for depreciation do not look so unreasonable, when they are applied to the whole economy, the division of depreciation allowances between the sectors is highly unconvincing. It will accordingly be best, at this point, to give over all attempt to discuss investment net of depreciation, and to set out the relevant figures in 'gross' terms. Instead, therefore, of looking at the net investible surpluses of the sectors as proportions of national disposable income (as we have hitherto been doing), we shall consider the gross investible surpluses as proportions

[1] It should be remembered that capital transfers from abroad are not part of national disposable income.

of gross national product. At the same time, we shall give the gross home investment, attributed to each sector, as a percentage of gross national product. This has the following result:

Gross home investment:		
'Private' sectors	12½	15½
Public sector .	4	4
Total	16½	19½

Gross investible surplus:		
'Private' sectors .	14½	14½
Public sector . .	½	7
	15	21½

This is how the figures appear to emerge. They show, it will be noticed, no expansion of investment in the public sector, but a considerable expansion in the private sector. This, however, is an illusion—an illusion caused by the nationalization of several major industries between our two dates. Nationalization has distorted these figures in two ways, one fairly obvious, one less obvious. On the one hand, nationalized industries are included in the 'private' sector (because, as corporations, they reckon among the companies); thus expansion of investment in nationalized industries appears as a 'private' expansion, though the government is directly responsible for it. It is extremely probable that most of the apparent expansion in 'private' investment is to be attributed to the nationalized industries. But this is not all. A considerable number of gas and electricity undertakings, which were nationalized by 1949 (and so reckoned into the 'private' sector) had been municipal in 1938, so that they were then 'public'. Thus if the 1949 nationalized industries could be hived off and made a separate sector, and if the same industries (whatever their then status) had been reckoned as belonging to the same sector in 1938—and it is this which would be the logical arrangement—we should find that the 1938 investment of the remaining 'public sector' would be reduced, but its 1949 investment would not be reduced. Thus, on a proper classification, there would be shown a significant expansion in investment in the residual public sector, as well as in the 'nationalized' sector; whether there would then appear to be any expansion in investment in the residual, and more truly, private sector is quite doubtful.

If, therefore, we look at the home investment for which the government was directly responsible (including that in the nationalized industries), it does not seem that the large public

savings of 1949 were any too much to pay for them. The government had to raise those heavy taxes, if it was to cover the cost of its increased public consumption, and its increased public investment, both of which had largely expanded, if properly reckoned.

There remains, however, another conclusion which can be drawn from the last figures given—a conclusion which is not altered by such reclassification. If the two sectors shown are looked at together, gross home investment was greater than the gross investible surplus in 1938, but less than the gross investible surplus in 1949. What is the significance of this change? We have now reached a point where all home consumption and all home investment have been allowed for; this difference is therefore a matter of the balance of payments.

6. The balance of payments account is even trickier than that which we have just been examining. To begin with, the figures of this account are not fully set out in the National Income White Paper. We are therefore obliged to supplement the White Paper figures from other sources [1] We cannot always be sure that the figures derived from other sources will fit in properly with the White Paper figures. There is at least one very important point where they do not do so at all satisfactorily.

Both 1938 and 1949 were years of balance-of-payments troubles, and in one way the troubles were of the same sort. It is not the only sort of trouble which can arise, and the concentration, which we shall have to make, on this sort of trouble is therefore to some extent misleading. But it is, in the British case, a common sort of trouble; the comparison between the effects of this trouble in the two years is very instructive.

Superficially, the contrast between the two years is great. If we include the proceeds of taxation on exports in the value of exports, British imports were largely in excess of exports in 1938, but were almost exactly equal to exports in 1949. The deficiency in 1938 was so large that it could not be covered even by the relatively ample income from foreign assets available at that time. The balance of payments was therefore *adverse*. In

[1] *International Financial Statistics* (published by International Monetary Fund) for 1938, Balance of Payments White Paper for 1949.

1949, income from foreign assets was a poor remainder of what had been, but it was still positive. The balance of payments was therefore slightly favourable.

In 1949, however, this small favourable balance of payments was not the only source of funds available for investment abroad. In addition, there were considerable receipts from capital transfers. Since such receipts were not available in 1938, there was in that year an excess of gross home investment over gross investible surplus equal to the adverse balance of payments, while in 1949 there was an excess in the other direction equal to the favourable balance plus net capital transfers from abroad [1]

From the point of view of these figures, the 1949 situation looks much better than the 1938 situation. But appearances are deceptive. The balance of payments account, more than any other of the nation's running accounts, needs to be considered against the background of the national balance-sheet. And the balance-sheet itself requires to be classified, for this purpose, in a way which for other purposes might not be necessary Assets (and liabilities) require to be classified from the point of view of *liquidity*.

An asset is *liquid* if it can readily be turned into money; it is liquid, from the point of view of international economic relations, if it can readily be turned into international money. From this point of view, hardly any of the real equipment of the nation has any liquidity; its fixed capital has none, its working capital (in practice) very little. Even external assets vary in liquidity a great deal; as was found in 1940–1, when British overseas assets were disposed of in great quantities, there are many which yield good profits so long as their organization and management

[1] There is, it must be emphasized, nothing causal about this connexion. It would be quite wrong to jump to the conclusion that there was an adverse balance in 1938 *because* the nation was investing too much. The adverse balance could perhaps have been removed by investing less, though a direct reduction of investment might also have reduced the investible surplus. That surplus is itself a short-hand expression for the resultant of all forces governing exports and imports, private and public consumption. In so far as we can isolate the causes of the 1938 adverse balance, they are probably to be found in low demand for exports, and in high 'public consumption' of armaments, which was financed out of borrowing, so that there was no decline in private consumption to match it.

remain unchanged, but which cannot be disposed of to foreigners at a reasonable price. The most liquid part of a nation's assets is its gold reserve, which is international money already. But the gold reserve will generally be accompanied by a fringe of easily realizable claims, which are nearly as liquid as the gold reserve itself.

A country may get into trouble if its liquid assets are diminishing, even if the total of its foreign assets remains unchanged, or is increasing. Thus it is quite possible for a country to have a favourable balance of payments, and yet to have acute balance-of-payments trouble. This will happen, for instance, if its illiquid foreign assets are increasing, but its liquid assets are declining. Since there are other liquid assets besides gold, a situation of this sort need not declare itself by a movement of gold reserves, though in practice it usually does.

A similar distinction needs to be made on the side of liabilities. It is unusual to talk about 'liquid' liabilities, but we can talk about 'quick' liabilities, which correspond. A quick liability is a debt, which has been incurred on such terms that the creditor has the right to convert it into money at short notice, or whenever he desires. Bank deposits are quick liabilities from the bank's point of view. It is impossible to carry on international trade without incurring many quick liabilities. If a nation has many quick liabilities, its general position is less liquid than it would be if these liabilities were 'fixed'. In order to achieve a given standard of security and liquidity, it then needs a larger quantity of liquid assets than it would do otherwise.

In the light of this discussion it becomes apparent that a favourable (or unfavourable) balance of payments may work itself out in several different ways, according as it is reflected in a movement of more or less liquid assets, more or less quick liabilities. All we have been able to do in the second stage of the balance of payments table is to separate out the movement of the most liquid assets (chiefly gold), but we have not been able to separate a movement of assets from a movement of liabilities, nor to distinguish between more and less quick liabilities. Our figure of 'net lending' is nothing else but a summary of all these movements. Positive 'net lending' may just as well signify the repayment of old liabilities, as the creation of new assets. In fact,

there is no doubt that in both our years it did mainly signify the repayment of liabilities, and quick liabilities at that. To have to repay a large quantity of quick liabilities quickly must, at the best, cause serious strain.

7. The large loss of gold in 1938 was mainly due, not to the adverse balance of payments of the British economy, but to an adverse balance in the rest of the sterling area. Overseas countries, which had been keeping quick claims on London as a part of their liquid assets, found themselves in difficulties, and demanded payment in order to settle their own debts (chiefly to the United States). The loss of gold was therefore quite largely a reflection of adverse balances in other parts of the sterling area, though a considerable part reflected Britain's own adverse balance. The net effect was a loss of quick liabilities (which in itself improved Britain's liquidity) together with a larger loss of liquid assets, which of course had the reverse effect. Fortunately at that time the total liquid assets of Britain were large; though nearly a third of the gold reserve was lost, enough remained to ensure that there was no major exchange crisis.

The 1949 situation was worse than this. Britain was now, as we have seen, a net debtor; this, perhaps, would not have mattered so much, if it had not been the case that an unduly large proportion of the debts left by the war were 'quick'. But her liquid assets were too low for her to be able to meet these 'quick' debts; she had therefore *frozen* a large part of them under Exchange Control. The term 'national bankruptcy' is bandied about, and is strictly meaningless, since there is no bankruptcy law to which nations are subject; but the nearest parallel to commercial bankruptcy that can occur among nations is precisely what has happened with Britain since the end of the war A bankrupt firm does not necessarily close down, or open under new management; it may be continued, with its creditors accepting postponement of payment, in the hope that they can be paid in the end, though not on the due date. A bankrupt, who seeks to rescue himself from such a position, has no course but to pay off his debts as fast as he can. This is what Britain was trying to do.

The 'net lending abroad' which figures in the 1949 balance

of payments, was nothing else but laborious repayment of frozen debts. It would have been absurd to use generous American help to accumulate new foreign assets, to use it for a struggle towards solvency was not so unreasonable The sad thing is that so little had been achieved in the way of a favourable balance without such aid, the progress which Britain was able to make by her own efforts was lamentably small.[1]

Even this is not all. There is another respect in which the 1949 account, as shown, is misleading—perhaps even more grossly misleading. If we had been able to show an account for the first eight months of 1949, by themselves, it would have given a clearer, but far less favourable, impression. In fact the rate at which liabilities were being paid off was greater than could be afforded As in 1938, the sterling area countries were themselves getting into balance-of-payments difficulties, and the liquid assets remaining to Britain were quite insufficient to stand the strain. For these eight months the figure for 'net foreign lending' (or repayment of sterling balances) would have been *larger* than it was for the twelve—the difference being made up by a loss of gold. This loss was more than could be borne, and as a result the pound was devalued in September.

Most of the consequences of devaluation lie outside our period; but there was one consequence which did materialize during the last three and a half months of 1949, and which accordingly affects our figures. After devaluation there was a considerable reflux of funds—'borrowing' which offset the excess of lending and reduced it to the year's total shown in our table. With the proceeds of this some part of the lost gold was recovered. But after September the value of the pound in terms of gold was 30 per cent. lower; thus a given number of pounds, spent on buying gold, brought in less gold than before. The account we show runs in terms of pounds, and that is why scarcely any net loss of gold is shown for 1949. If the change in gold reserve had been measured in ounces, or in dollars, there would have been an appreciable loss.

8. Thus the 1949 balance of payments was much worse than

[1] Even if the disastrous years 1946 and 1947 are left out of account, the four years 1948–51 show, in this sense, no net progress in total whatsoever.

it appears at first. And for a country like Britain, which is dependent on international trade for its bare subsistence—for the food of its people and for the raw materials of its industry—it is impossible to regard the balance of payments as a separate compartment, which can have its own troubles without the rest of the economy being affected. The fact that the balance of payments position was worse than appears on the surface means that the whole economic position of the nation was worse than appears on the surface. It is not surprising that things turned more difficult after September 1949; that they had to do so was implied in what had happened previously.

One of the things which we learn from a comparison, such as we have made in this chapter, is that a comparison of social accounts for two years cannot tell the whole story. Part of its inadequacy is due to our concentration on a particular post-war year; if we had extended our investigation, and covered all the post-war years for which figures are available, the picture would have been clearer, and its message more distinct. But that would have been too large an investigation to be appended to a book of this kind; it would have needed a book to itself. Another defect, which we could do no more than begin to remedy in the preceding pages, is the inadequacy of the National Income White Papers on the balance of payments side, and the lack of a national balance-sheet to provide the background for proper appreciation of the balance of payments position. The fact that the main balance of payments information is published separately, and is not arranged to fit in, is symptomatic of the widespread failure to think through together these two vitally interconnected aspects of the same problem.

If we do attempt to remedy these defects to the best of our ability, what is the broad picture which we get? Very briefly stated, it seems to be something of this kind. The resources which Britain needed for waging war were drawn, during the war, from four main reserves: (1) the absorption of the pre-war unemployed; (2) abstention, mainly by the wealthier classes, but to some extent by all classes, from less necessary consumption; (3) abstention from the replacement of capital equipment; (4) sale of foreign assets and new borrowing abroad. Of these four sources, the drain on the first was a good thing in itself;

but none of the others were good in themselves, with a possible exception of a part of the sacrifice under the second head. When the war ended, these reserves had been drained away almost entirely; the third and fourth were both of them in urgent need of attention, since their exhaustion imperilled the future productive power of the nation. In fact, a great deal has been done to make up for the war-time running down of capital equipment—though, as we have seen, there was a bias in favour of certain sorts of equipment rather than others, which was not always as wise as it might have been. Much less, far too little indeed for the health of the national economy, was done for the rebuilding of the external position, and for the replacement of external losses. Instead of that, the resources which were kept available under the first two heads (full employment and abstention from luxury consumption) were turned over to the implementation of a large programme of social expenditure—public consumption and investment for social purposes—the effects of which have been seen in the accounts we have been studying. This social expenditure is undoubtedly good in itself, and reflects most faithfully the desires of the masses of the people; many of its consequences, such as its effect on the inequality of incomes, doubtless also reflect those desires. But some of its consequences do not reflect what anyone would deliberately desire; they are indeed most highly dangerous. One of these consequences is inflation; the other is the fact that the external position has always had to take the last place in the queue for attention, excepting on the frequent occasions when it has shown the red light.

Some might say that the most fundamental difference between the Britain of 1938 and that of 1949 is on this matter of reserves. In 1938 Britain had ample reserves, too ample in many ways. Neither the unemployment of the poor nor the luxury expenditure of the wealthy were good things in themselves. But they did mean that it was easy to respond to a challenge: 'she rejoiceth as a giant to run her course'. In 1949 the opposite was true; even at the best the boat was riding low on the water, and the response to the challenge which was to come could not be the same.

APPENDIX

NOTE A. *On the Definition of Production*

I HAVE kept fairly strictly in this book to the definition of *productive work* as *work done to satisfy the wants of other people through exchange.* This definition corresponds to the definition of *income* used in calculations of the British National Income, and it has the great advantage of being unambiguous. But it is not by any means wholly satisfactory. There are at least three kinds of socially useful work which are excluded from productive work on this definition: (1) domestic work, done within the family, by housewives and others; (2) direct production for use of the family, mainly of foodstuffs, on gardens, allotments, and small-holdings; (3) 'voluntary' work, done for its own sake or from a sense of duty to the community or social group to which one belongs. These kinds of work are only distinguished from the kinds which we do count as productive on the one ground that they are not paid: there is no payment in the ordinary sense, that is, though of course there are other compensations Exactly similar work can often be found which is paid for; domestic work may be done by a paid housekeeper, the allotment-holder may sell his produce, the club may employ a paid secretary. It would therefore be possible for *production* (in our sense) to go up, merely because some work, which had previously been unpaid, was transferred to the paid class; yet the wants of the community as a whole need not be any better satisfied as a result.

Transferences of this sort do not often occur nowadays on a large scale; but when they do, we must allow for them in some way, if we are not to be led into serious error. It is a serious error, for example, in the economics of war, if we neglect the fact that by drawing women into munition making and other war services the supply of labour for necessary domestic work is diminished. Again, when rapid improvements in transport take place in a hitherto undeveloped country, farmers will change over from producing mainly for their own wants to producing mainly for sale. On our definition of *production* this would cause agricultural production to shoot up from almost nothing to a considerable height; but though the farmers would almost certainly be better off for the change, they would not be as much better off as such figures would indicate. In cases such as this last, there is a great deal to be said for using a wider definition of production, including all agricultural production, whether produced for sale or not; this is in fact what is usually done when estimating the

national income of such a country as India. The object of any such calculation is to get the most useful figure possible; in a case where the habit of selling agricultural products is spreading, a figure which includes all such products will be more useful than one which includes only those products which are produced for sale.

It is tempting to seek for a way round the difficulty by widening our definition, including some of the things we have left out; but the trouble then is to know where we should stop. The most promising suggestion for widening is that made (but ultimately rejected for this purpose) by Professor Pigou[1] that we should include all those kinds of work which can be brought into relation with the 'measuring-rod of money'—not merely those which *are* paid, but those which *might* be paid. Unfortunately it is impossible to interpret this wider definition in a way which would command general agreement. A man might employ a secretary to write his letters; if he writes his own letters, are we to say that the time he spends in doing so is spent in productive work? A man may employ a gardener; if he works in his own garden, how are we to separate out the work which he does to satisfy his own wants for vegetables and flowers, from the work which is an end in itself, which no one could do for him since no one else could give him the pleasure he gets from watching the growth of a shrub, raised from his own cutting and planted by his own hands? The wider definition gets us into inextricable knots; and no other wide definition has been suggested which would not do so. We are therefore driven to adopt the limited definition here used, though we must be prepared to modify it by including some particular things not produced for sale, in cases where it would be seriously misleading not to do so.

It is also interesting to observe that an issue exactly parallel to that which we have discussed in this note arises in another connexion.[2] If we decide to reckon as productive only those services of labour which are paid for, we ought to do the same with the services of capital. The durable-use consumers' goods, which are in existence at the beginning of a year, render valuable services to their users during the year; but if user and owner are one and the same person, no payment is made for these services. People derive advantages from the durable-use consumers' goods in their possession, just as they derive advantages from the work which they do to satisfy their own wants; but as we are excluding the one because no payment passes, so it would appear that we must exclude the other. On the same principle, we must include the services of those durable-use con-

[1] *Economics of Welfare*, Part I, chs. 1 and 3.

[2] See above, p. 34.

sumers' goods for which a rent is paid, since these are analogous to the work which is paid for.

This is the principle; but in this case we meet a difficulty just like that of agricultural production for the farmer's own use Houses are the most important class of durable-use consumers' goods; but some houses are rented, some are owner-occupied If we reckoned the services of the rented houses as a part of production, but not the services of the owner-occupied houses (which would be the logical thing to do), we should get into a difficulty just like that which arose over agriculture. An increased tendency for people to own their own houses would appear as a fall in the social income, but it would be absurd to regard it in that light. Since a change of that sort may well occur (and has in fact occurred in Britain during the last thirty years) it is much safer to include the services of *all* houses. The peculiarities of the British income-tax law do in fact make it easier to include the services of all houses than to sort out only those houses which are rented. This is no doubt the reason why the services of all houses are in practice always reckoned in calculations of the British national product; it is not always appreciated, however, that there are good economic reasons for including them all.

NOTE B. *On the Idea of an Optimum Population*

When discussing the economics of Population in Chapter V, I have carefully avoided making any use of the idea of an Optimum Population, although that idea has been widely used in discussions of the subject.[1] It is easy to see how the idea arises. If the population of a particular area may be too small for full efficiency of production, and if it may also be too large, then there must be some level in between at which it would be *just right*. The same thing can be put in more technical language by defining the optimum population as that level of population which would make output per head a maximum. A country will then be under-populated if its population is less than the optimum, over-populated if its population is more than the optimum.

We have seen that it is possible to give definite and important meanings to the terms under-population and over-population; but this does not suffice to show that an optimum population between the two can be precisely defined No one has ever been able to say what the optimum population of any particular area is in fact; for this inability there are several very good reasons.

[1] See, for example, Carr-Saunders, *Population*. Cannan, *Wealth* (3rd edition), only uses the idea with careful qualifications.

In the first place, what do we mean by saying that *net output per head* is a maximum? The output of society consists, not of one good, but of an immense variety of goods and services. In consequence, in order to say that net output per head is greater in one set of circumstances than in another, we have to find a means of reducing the variety of goods to a common measure. Methods of doing this are discussed in Chapter XV; but the methods discussed in that chapter are none of them perfect ways of making the reduction; they are all of them makeshifts. It is not by any means certain that a perfectly suitable method of making the reduction can possibly be found. It is thus extremely probable that a *range* of possible sizes of population would exist, each of which would have a good claim to be regarded as *the* optimum population, if a suitable method of reduction were taken. If population increases, some kinds of goods become harder to get, some become easier; we have got to decide whether the shift from the one sort to the other is advantageous or not, and on that opinions may differ. Sometimes it may be very clear that the advantage exceeds the disadvantage, or vice versa; then we need have no hesitation in saying that the country is under-populated or over-populated as the case may be. But between these extremes there is likely to be a range (conceivably quite a wide range) where the advantageousness of a change is largely a matter of opinion. Within this range it would be venturesome to claim that any particular size of population is optimum; it is far more important to notice that it is only when the actual size of population falls outside this range that the size of the population becomes an urgent economic issue.

This is one of the difficulties which has to be borne in mind; but there are others of greater importance. It is impossible to define the optimum population of an area unless something is taken for granted about the other conditions of economic welfare apart from population. These other conditions include the state of industrial technique, the amount and the character of capital equipment, and the opportunities for external trade. Changes in these other conditions may change the optimum size of population very markedly. England would be grossly over-populated today if her capital equipment were no greater than it was a century ago; she would be grossly over-populated today if her opportunities for foreign trade were no greater than they were a century ago. The way in which a problem of over-population in England can most easily arise in the future is by a failure of sufficient expansion in the opportunities for foreign trade.

This being so, an optimum population, defined with reference to the conditions of technique, capital, and foreign trade *as they are at present* is a notion of extremely little practical interest. For in the

time which it would inevitably take (by any other route but that of catastrophe) to adjust the actual population to the optimum, we may be sure that the optimum itself would have shifted, and would probably have shifted to an important extent. Further, it is very probable that the optimum size of a population will depend on the age-distribution of that population; but in the process of adjusting the size of population age-distribution must change. An area could not be said to have reached a fully optimum state of population until its age-distribution was such as to keep the population optimum; but such a condition could hardly be reached from any actual population within a foreseeable future.

These difficulties are not of importance when a country is decidedly under-populated (or over-populated); for we should then be safe in maintaining that an increase (or diminution) of population would still be advantageous, even if the other conditions of production changed in any way that seemed at all probable. But a statement of this sort is not made any clearer by using the phrase 'optimum population'.

NOTE C. *On the Depreciation of Capital*

The using-up of capital equipment as the result of productive activity takes two forms: (1) the gradual wearing-out of fixed capital—this is what the business man calls depreciation; (2) the using-up of single-use producers' goods—working capital and stocks. Each of these kinds of depreciation raises awkward problems of measurement, perhaps the most awkward of all the problems connected with the national income. Here we can do no more than indicate the general nature of the difficulties.

We have already seen (p. 103 above) that the valuation of a durable-use good, at a time when there is no question of selling it, is always a very delicate matter; different values may be put upon it by different people, and by the same person for different purposes. Naturally the same trouble persists when it is a question of estimating the reduction in the value of a particular piece of equipment, which has resulted from the year's operations: different people might estimate the reduction in different ways. In practice there are two estimates for the depreciation of a firm's fixed capital which need to be carefully distinguished.

In the first place, there is the estimate made by the firm for its own purposes—for example the purpose of deciding the amount which is available for distribution in dividends. In a well-managed firm care will usually be taken when framing this estimate to be well

on the safe side; when there is any doubt on the matter (as there usually will be) a high figure for depreciation will be chosen rather than a low one. (The systematic choice of high figures for depreciation is the easiest way of setting aside 'hidden reserves'.)

The other practically important estimate is that made for purposes of taxation. Since there is this arbitrary element in a firm's own reckoning of its own depreciation allowances, and hence of its own profits, taxes on profits cannot be assessed on what firms themselves declare their profits to be; this would give far too much opportunity for evasion. It is therefore necessary for the government to lay down rules for the determination of depreciation allowances (or, as these statutory allowances are called, wear-and-tear allowances); the profits on which taxes are paid are calculated by deducting, not the firm's own depreciation allowances, but the wear-and-tear allowances laid down by law. Now it is these profits, calculated for purposes of taxation, which are recorded in the statistics used for calculating the national income on the income method; the figures given for the British national income are therefore dependent to some extent upon the rules for the calculation of wear-and tear allowances which have been laid down by Parliament.

Wear-and-tear allowances, drawn up for the purpose of securing fairness in taxation, do not necessarily give us a satisfactory measure for use in calculating the national income. It is probable that in practice the discrepancy is not often serious; nevertheless, economists have the responsibility of trying to discover the principles on which depreciation allowances ought to be calculated for this other purpose, in order that they should be on the look-out for such discrepancies as may arise.

It is not possible in this place to go far into the economic theory of depreciation, not all of which is well agreed among economists; two points which are well established nevertheless deserve to be mentioned. One is the distinction between depreciation and capital losses. When calculating the income or output of a year we have to deduct as depreciation the capital equipment used up in the process of production; but we should not deduct any accidental destruction of capital equipment which occurred otherwise than as a consequence of production. In the year 1941 a considerable amount of capital equipment was destroyed in air raids; a loss of this sort must not be deducted before arriving at the net output of the year, if only because the figure got after deducting that loss would be less significant than the figure for output without such deduction. It would be absurd to regard 1941 as having no output at all until it had produced enough to offset the air-raid damage! But it will be noticed that if we regard

such losses as *capital losses*, not included in depreciation, then it is not necessarily true to say that the capital of the community at the end of the year equals the capital at the beginning *plus* net investment. The capital at the end of the year may be reduced below this level to the extent of such capital losses

The official rules for calculating wear-and-tear allowances make no mistake on this point; they proceed by allowing a certain percentage of the original purchase price of each piece of fixed capital equipment still in use during the year, and are thus under no temptation to include capital losses. But although it is necessary, in the interests of fairness, to go back to the original purchase price (for that is firm ground, not somebody's guess), to do this is *not* economically satisfactory. For the original purchase price of a piece of equipment is not one of the prices of this year, it belongs to an earlier year, sometimes a much earlier year; thus when prices are changing, the practice of reckoning wear-and-tear allowances on this basis introduces a new complication into the problem of expressing the national income in real terms. When prices are rising, the fact that wear-and-tear allowances are based on conditions as they were when prices were lower means that they may underestimate the real economic depreciation; the national income is therefore made a little higher than it should be. Conversely, when prices are falling, the national income may be made a little lower than it should be.

A distortion similar to this last (but not identical with it) may arise on the side of working capital. If the community possessed exactly the same quantities of all sorts of single-use producers' goods at the end of the year as it did at the beginning, then clearly we ought to say that no net investment in working capital had taken place (apart from the possibility of capital losses). But if there had been a change in prices *during* the year, the value of the working capital would be altered; the accounting methods employed in practice would probably show this as positive net investment if prices were rising, and certainly show it as negative net investment if prices were falling.[1] In a more realistic case, with higher quantities of some goods at the end of the year than at the beginning, and lower quantities of others, it becomes hardly possible to conceive of a system of accounting which would not produce some distortion of this sort. But, unlike the distortion on the side of fixed capital, this distortion on the side of working capital can be allowed for in national income calculations It is to some extent a matter of taste whether one does allow for it;

[1] There has sometimes been a misunderstanding on this point. If stocks are turned over more than once a year (as is usual), some correction needs to be introduced even in the case of rising prices.

modern White Papers include estimates of 'Stock Appreciation' which enable us to make the correction or not as we feel inclined. In the figures given in Chapters XIV and XXI the correction has been made. If we had not made it, the undistributed profits of companies would have been £60 millions lower in 1938 than we have shown them, while the 'mixed incomes' would have been £20 millions lower. The net national product would therefore have been lower by 2 per cent In 1949, on the other hand, undistributed profits of companies would have been £7 millions higher, the profits of the public sector would have been £10 millions higher, and the mixed incomes would have been £23 millions higher. Relatively to 1949 prices, these are much smaller corrections. They would raise the net national product by less than ½ per cent. Much bigger corrections would have been necessary if we had taken a year in which prices were rising rapidly, such as 1947 or 1950.

NOTE D. *On the National Balance-sheet*

The sketch of a national balance-sheet given on p 109 is a very poor thing; if it did not play a rather crucial part in the argument of this book I should have been tempted to leave it out I feel a good deal less confident in it than I did in the corresponding table for a date in the nineteen-thirties which appeared in the first edition. In that case I had the advantage of being able to use the careful researches of Mr. Campion, whose *Public and Private Property* (Oxford University Press, 1939) had applied the methods invented by Lord Stamp (*British Incomes and Property*) to give as good a picture as we are likely to have of the distribution of property in 1932–4. No similar inquiry has been completed for the nineteen-forties. I have had the advantage of being allowed to see some preliminary results of an inquiry by Mrs. K. M. Langley, of the Oxford Institute of Statistics; my table owes to her what traces of solidity it contains, but these are almost swallowed by the guesswork which is my own responsibility. It already appears from Mrs. Langley's work that the Stamp–Campion method of treating property assessed to death duties as a sample of all private property is decidedly more hazardous in the conditions of 1946–50 than it was before the war The great problem which confronts an attempt to construct a national balance-sheet for these years is that the immense mass of national debt (a known figure) has to be fitted into the table somehow; and it is by no means easy to fit it in, consistently with the other evidence. I have been unable to fit it in, except by a good deal of rather rough treatment.

So much by way of apology. The rest of this note is of a more con-

structive character. I want to emphasize (partly for the benefit of any economic statisticians who may read these pages) that the construction of a respectable national balance-sheet does seem to me, after all, to be a more possible task than has often been supposed. And further that it is well worth having, if we can get it.

On the side of practicability, we should not allow ourselves to be over much frightened by the multiplicity of valuations which can be set upon particular assets (and debts). It is quite true that if the actual balance-sheets of British companies were put together and consolidated, we should not get the cancelling-out we ought to get, because of the same obligation being set at different values in the books of creditor and debtor respectively. But, though we have to think of the national balance-sheet as being put together theoretically by such consolidation, this is not the way in which the statistician will actually go to work; any more than the corresponding process in the field of national income calculation is the one which the statistician actually carries through. The combined balance-sheet of all companies will not be put together by combination of actual accounts—it will have to be *estimated* by indirect methods. Now in the process of estimation we can transcend the difficulty. We can decide that, *for our purposes*, valuation is to be done in a particular way; we can keep to that system of valuation consistently. If we do so, our national balance-sheet will hang together, even though the individual accounts which (in principle) compose it will not be identically the same as those which would be put forward in practice for their own purposes by the constitutent units.

The basic system of valuation which will have to be adopted is undoubtedly that which is appropriate for the property of *persons*. The first object should be the valuation of 'personal' property at, so far as possible, market values. This will be reached in the form of an assessment of the *net assets* of persons; it will be slightly distorted by lack of uniformity in the assessment of inter-personal debts, but the distortion need not be serious. A balance-sheet of the personal sector ought usually to be attainable along these lines, by Stamp–Campion methods, reinforced (perhaps) by the newer sampling techniques developed in the United States. The theoretical difficulties arise in the other sectors.

If, however, we hold firmly to the principle that the basic valuation is that of the property of persons, we can find a way out. The balance-sheets of 'companies' and of 'government' must frankly be adjusted so as to maintain consistency with the personal sector. The shares and bonds, as they appear in the balance-sheet of the 'companies' sector, must be entered at the values which have been given them in

the balance-sheet of the personal sector, not at the values given them by the companies. In spite of this, we must hold to the principle that the *net assets* of companies are nil This means that we must not attempt to value the *real assets* of companies directly. We must accept the 'shareholders' value' of these real assets—not the value which is set upon them by the company, but the value which is implied in the market value of the shares.

The same principle will hold for those nationalized industries which take the form of 'public corporations' (see note on p. 106 above). In this case, as in the case of ordinary companies, the use of 'shareholders' value' may mean that there remains a 'hidden reserve' in the form of a difference between the cost value of the assets and that which is set upon them in the table. It may be useful to attempt a direct valuation of this reserve, but it should not be included in the balance-sheet, save (perhaps) as an altogether independent entry or appended annotation.

The same principle, again, should be used for the valuation of the national debt. Since it is always possible for the government to buy back its own debt at market value, the valuation of national debt in the government part of the national balance-sheet should in principle be at market value, though this is not done in the statement which the government publishes. Where we get no help at all from these principles is over the valuation of government assets; though something can possibly be done with some classes of government assets (houses should be valued as analogously as possible with the houses in private ownership), the valuation of government assets as a whole must inevitably be very arbitrary.

A national balance-sheet, composed on these principles, would not tell us all the things we might expect at first sight that it would tell us. The truth seems to be that no possible balance-sheet could do so. It would all the same be a most useful instrument of thought about public affairs

The most important practical function of a national balance-sheet would be to remedy some of the weaknesses of the national income-and-expenditure account, upon which too much reliance has been placed in the years since 1945. No one supposes that it is possible to get a sound idea of the way a company is doing purely from a consideration of its running accounts (the accounts which refer to the annual period), without some attention to its balance-sheet (its account at a moment of time). The same is true, though it has been too much overlooked, with the nation. If a national balance-sheet, however rough in character, had appeared each year with the National Income White Paper, the general position of the British

economy would have been seen in much better focus. It would, for instance, have been impossible to go so far as most people have gone in forgetting two of the most basic facts about that position. These are the fact that Britain is now a debtor country on overseas account (though she has been temporarily able to avoid payment on some of her debts); and the fact that so much of the private property in the country now has nothing more solid behind it than the ability of the taxpayer to pay taxes. Much of the post-war economic history of Britain is nothing else but a series of wriggles in the attempted digestion of these two most indigestible morsels.

NOTE E. *On Comparisons between the Real National Incomes of Different Countries*

In principle, the same methods as those used in Chapter XVI, for comparing the economic welfare of the same country in two different years, may be used for comparing the economic welfare of two different countries. But the difficulties in the way of getting a result that means anything are far greater. The circumstances existing at the same time in two different countries may easily differ far more drastically than those which are likely to exist in the same country in successive years; for the purposes of such comparisons, even France in 1941 was more like France in 1938 than England is like the United States. These great differences in national circumstances make it necessary to pay particular attention, when making international comparisons, to all those defects of the national income as a measure of economic welfare which we listed on p. 187. National habits about the sorts of useful work which are paid for differ widely; the amount of effort needed for similar sorts of work varies with climate and national temperament; the proportion of the national income used for defence varies greatly within a nation as political circumstances change, but it varies between one nation and another for simple reasons of geography. Then the comparison of prices between different nations is a particularly intricate matter. It often happens that there are wide differences between the sorts of commodities which different peoples principally consume; this means that the basket of commodities consumed by a representative (say) Italian will nearly always cost more in England than it would in Italy, but at the same time the basket of commodities consumed by an Englishman would cost more in Italy than it would in England. Are we then to say that prices are higher in Italy than in England, or vice versa? We can probably arrive at a moderately satisfactory answer by some device

for splitting the difference; the result thus reached may have some meaning, but we should be unwise to place more than a limited amount of confidence in it.

Even if all these difficulties can be overcome—and with care (which is not always taken) they can be overcome more or less—there is still the fundamental difficulty that people who live in favourable geographical circumstances acquire freely all sorts of things which others have to earn by the sweat of the brow. Those who live in cold climates need more fuel, more clothing, and probably even more food, than those whose allowance of free sunshine is more generous. This is not at all to deny that there are poor nations and rich nations, just as there are poor and rich people within a nation. Their existence is obvious; international inequalities create social problems as grave, or graver, than the inequalities of class. The warning is concerned with a limitation of economics; what economics has to say about the comparison between the economic welfare attained by the same person (or similar persons) in different economic circumstances is extensive; but comparisons between people who differ in other important respects are a much more slippery matter.

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